System Evolution 4.0

Full/Light

User Manual

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1. System Requirements

Systems Evolution 4.0 requires one of the following operative systems:
Windows XP Professional / Home edition
Windows Vista
Windows 7
Windows 8
The PC needs the following minimum requirements:

Operating System	Minimum Requirements
Windows XP Professional / Home Edition	• Intel Pentium or compatible 300 MHz or superior • 125 MB RAM • 60 MB memory • CD-ROM or DVD-ROM unity
Windows Vista, Windows 7 and Windows 8	• Processore 800 MHz • 512 MB di RAM • 20 GB di spazio disponibile su disco rigido • Unità CD-ROM

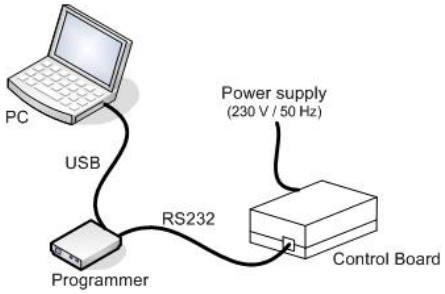
Note: To install and use Windows XP, needs administrative account. For installation and importing files monitor on Windows Vista, Windows 7, Windows 8 you need an account with administrative privileges, for use it is sufficient a default user account.

2. Installation

To install System Evolution 4.0:

- close all programs
- insert the CD in the CD-ROM unit, click on setup.exe and follow the wizard procedure.

3. Connections



Pic. 1

Connect the PC to the serial port RS232 of the control board through the USB Programmer.
Supply the control board at 230 V / 50 Hz (see Pic.1).

To connect System Evolution by remote please refer to Appendix C and D.

4. Start

To start the software :

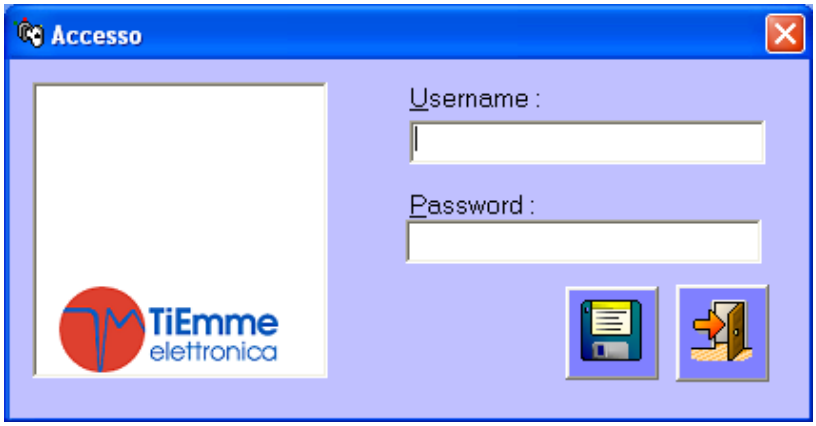
- Select **Start → Programs → TiEmme elettronica → System Evolution 4.0**.

First time System Evolution 4.0 starts up it requests to choice the language. You can choose Italian, English or another one (but you have to translate each word! See sec. 5.10.3).

Pic. 2

To start the program it is necessary to insert user name and password.
The default user name and password are:

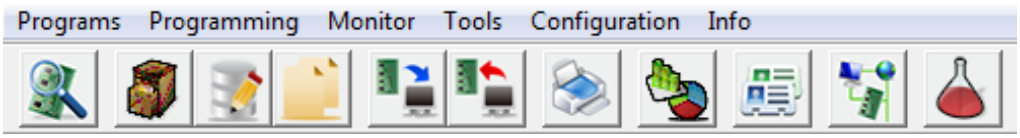
Username: **user**
Password: **user**



Pic. 3

Push the button to confirm or to exit.

5. Menu



Pic. 4

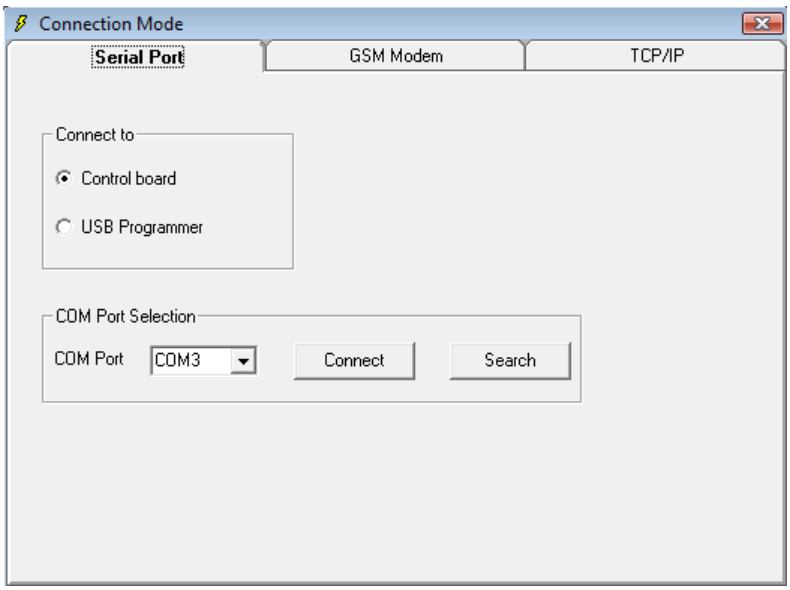
Pic. 5

5.1 Quick Selection Buttons

	Product Identification	Open the window to recognise the connected product
	Programs Managements	Open the window to modify and create new programs for the selected product
	Modify Programs	Open the window to modify the selected program's data
	Copy Programs	Open the window to copy a recipe
	Read Program	Starts the parameters' reading procedure from the Control Board's memory
	Write Program's Parameters	Open the window to write the selected program's parameters in the Control Board's memory
	Print Programs	Open the window to print the selected program
	Logger processing	Open the window for processing saved logger
	Address book	Opens the window with the data of customers
	Connection Mode	Opens the window to choose the mode of connection to the control board
	Lab Mode	Opens the lab environment for the development of new programs

5.2 Remote control selection button.

Clicking on the icon to open the window to choose the connection mode for the software to perform the tasks of management and control. It's also possible to use the following path ***Configuration*** → ***Connection mode***



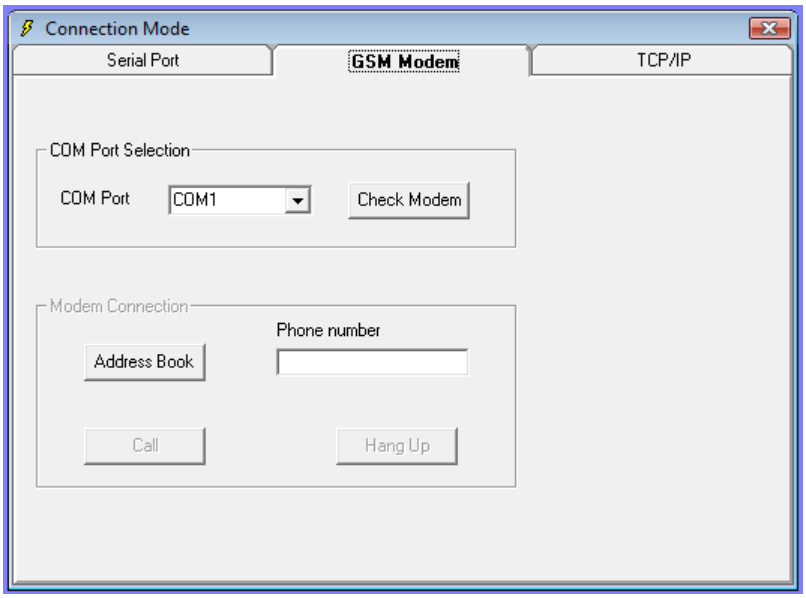
Pic. 6

5.2.1 Serial Port

This section shows how to connect via the serial port.

- **Control board**. To download the firmware and programs on the control board, with the following configuration USB programmer connected to the PC via USB and control system connected to the USB programmer;
- **USB Programmer**. To Load the programs on USB Programmer connected to the PC;
- **COM Port Selection**: To find out in which COM port you have connected the USB Programmer
  - Select the port number from the drop-down menu and then click on the **Connect button**;
  - Automatic selection and connection to the COM port with the **Search** button

5.2.2 GSM Modem



Pic. 7

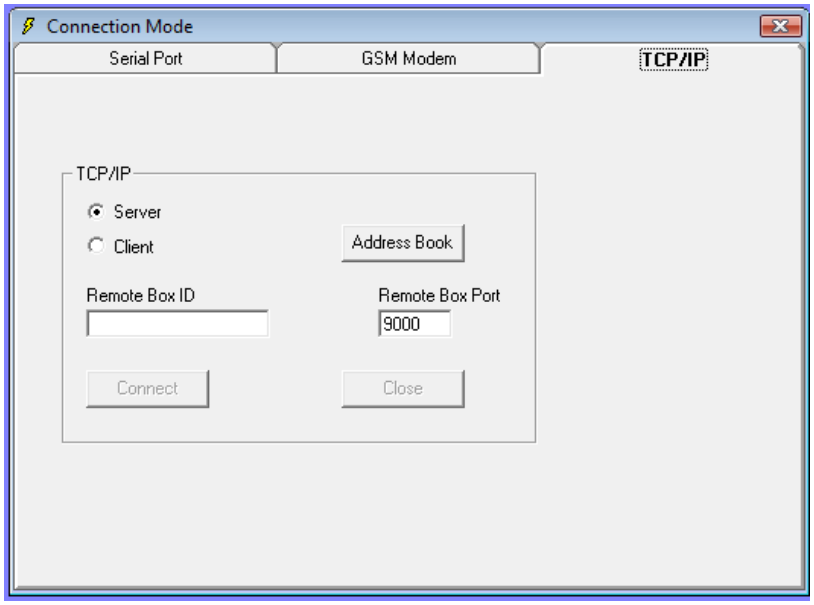
In this section is possible to connect to the control board via the GSM modem.

- **COM Port Selection:** Select the COM port drop-down menu to select the COM port where is connected the modem;
- **Check Modem:** to test the Modem connection with the selected COM port;
- **Address Book** to open the Address Book and to select the number for the connection;
- **Phone number:** to enter directly the phone number , for example in the case that it is not in the address book.

System Evolution 4.0 allows the use of a modem (supplied) for connection with a remote control board. The customer care support center will provide local modem with a SIM card that supports a GSM data connection. The user of the stove will connect the modem (supplied) and provide it with SIM card that supports a GSM data connection and with PIN request disabled. Although the software and the control board are equipped with an idle connection timeout of 5 minutes (after which the modems are disconnected), it reminds the end user of System Evolution to Switch off the modem whenever it is unused. TiEmme Elettronica assumes no liability in case the modem will remain active indefinitely.

At the end of the use of remote control, press Disconnect to end communication with remote control board. If System Evolution should indicate errors during the disconnection, we recommend turning off the modem. Please note that if the active connection is not used for longer than 5 minutes System Evolution and / or the control board will terminate the connection for inactivity. Once it's connected System Evolution will work like the local connection.

5.2.3 TCP/IP – NETLINK



Pic. 8

This section describes the settings required to connect remotely to the control boards via intranet/internet with the product NETLink.

- **Server:** when the device NETLink is set as the client and the software System Evolution as a server
  - **Remote Box ID:** is the ID of the NETLink device to connect. This field is automatically populated if the address book is used, otherwise is possible enter manually.

- **Client:** if the NETLink device is set as a server and software System Evolution as a client;
  - **Remote IP/FQDN:** for entering the IP address of the remote NETLink device functioning as a server;

- **Address book:** to choose the device NETLink to connect;

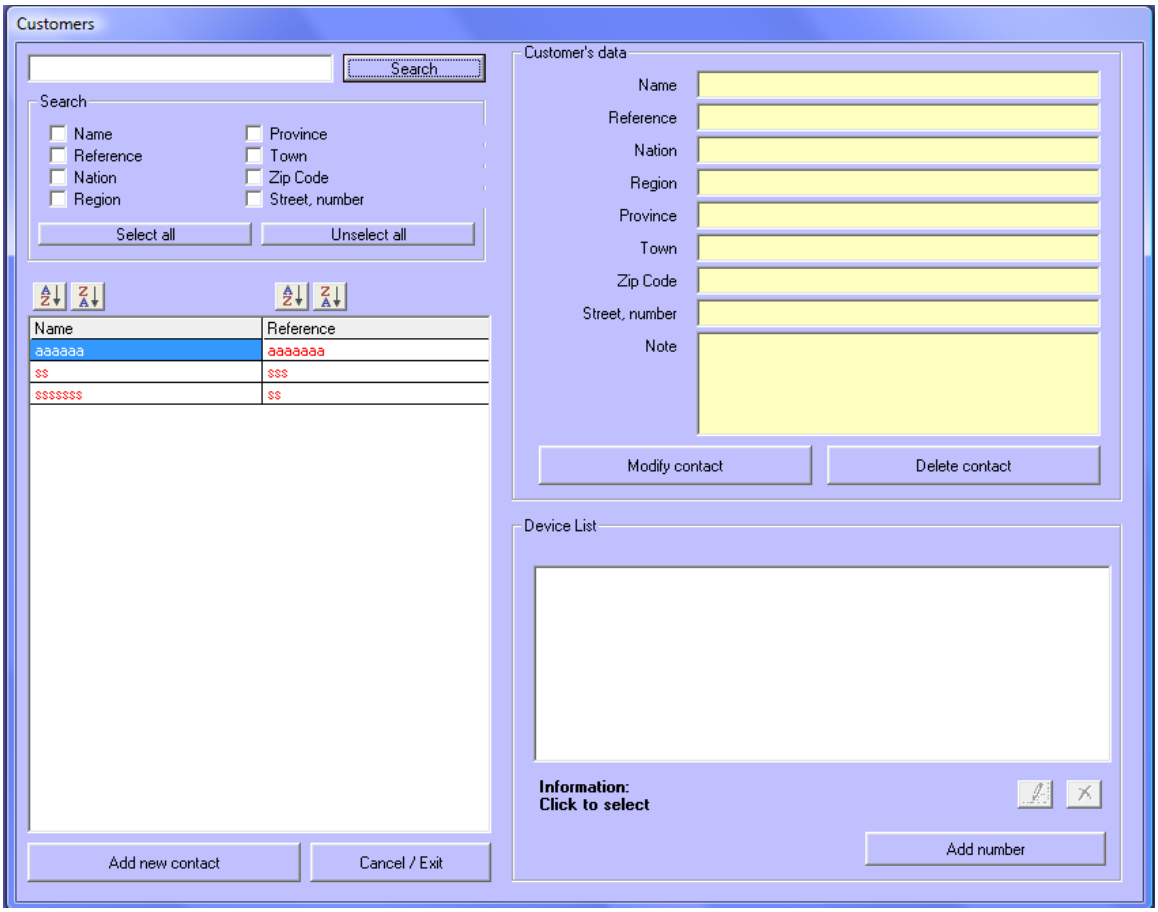
- **Box Remote port:** specifies the port used for the connection to the NETLink device;

All connections incoming or outgoing pass through the port specified in the Remote Box port, which must be the same on device NETLink.

5.3 Address Book

System Evolution 4.0 includes a phone book to store contacts for customers using the remote. To open the Address Book and insert, modify or delete contacts, press Contacts in the control bar of System Evolution.

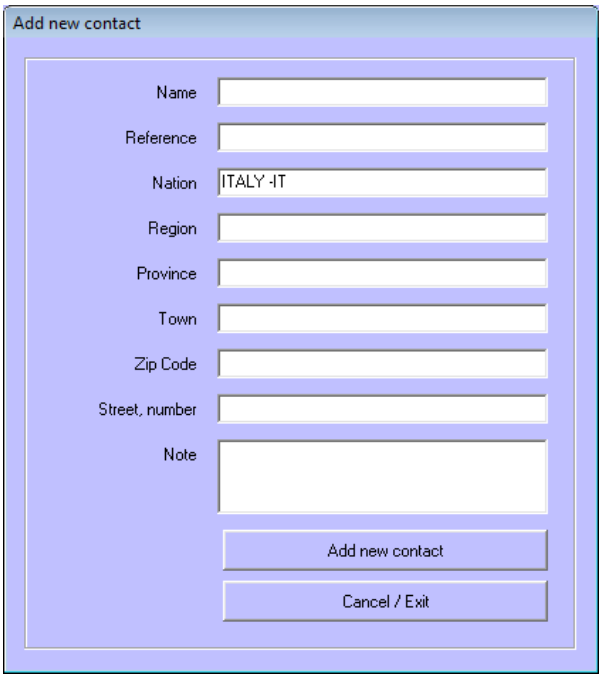
To open the address book and insert new contacts click the Address Book icon in the taskbar system evolution.



Pic. 9

To add a new contact, press '**Add new contact**' button. This will open the form in which will fill in all fields (Name and reference are required). Once created the new contact, add one or more devices to connect by pressing the **'Add Number'** button. In the case of IP addresses, use the following nomenclature for the complete identification IPAddress @ portnumber.

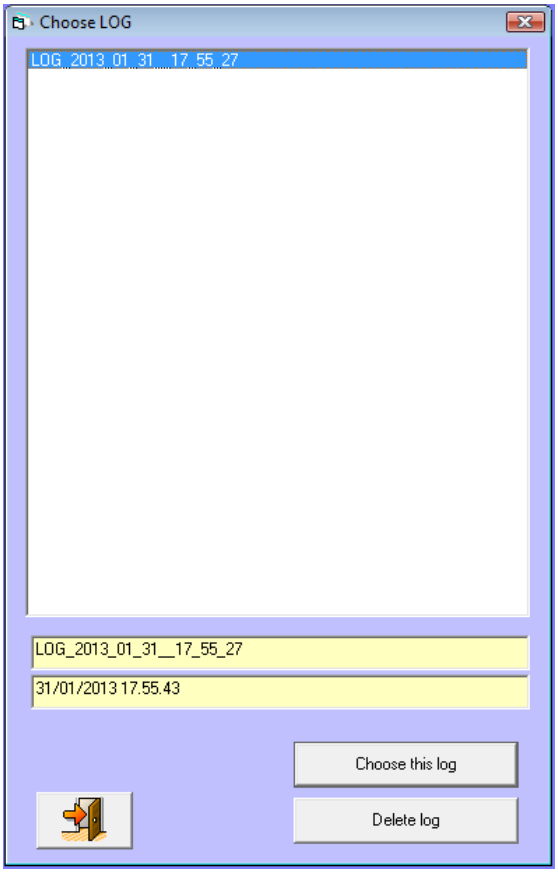
To edit or to delete the selected contact using `**Modify contact'** or **'Delete contact'** buttons. The book is also equipped with a search utility for finding contacts, reference etc.. Selecting entries in the frame '**Search**' you can filter your search according to the field. The keys AZ near to items 'Name' and 'Reference' create a sort ascending or descending alphabetical list of contacts according to the name or reference. To exit the Address Book press **Cancel / Exit** button.


Add new contact
Name
Reference
Nation
ITALY -IT
Region
Province
Town
Zip Code
Street, number
Note
Add new contact
Cancel / Exit

Pic. 10

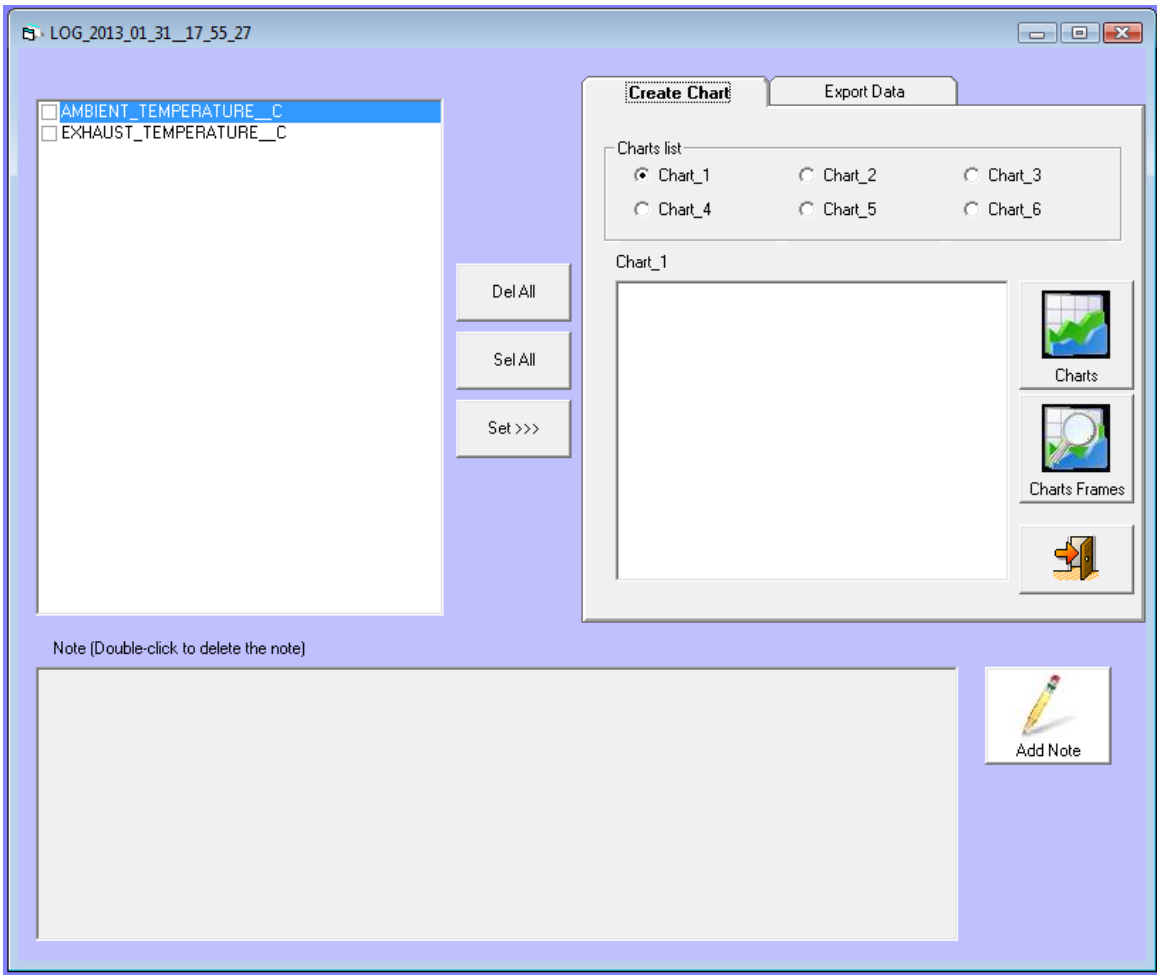
5.4 Logger Processing

The function allows you to process files even when the logger software is not connected to the control board. Clicking on the icon opens the window for the selection of the logger file saved on the PC. Selecting the files to be processed (Filename SYEVOXXXXXXXX.mdb) opens the window for the selection of the log file.



Pic. 11

Selecting the log file to open the editing window. This windows is accessible even from the monitor/logger section


LOG_2013_01_31__17_55_27
AMBIENT_TEMPERATURE__C
EXHAUST_TEMPERATURE__C
Del All
Sel All
Set >>>
Create Chart
Export Data
Charts list
Chart_1
Chart_2
Chart_3
Chart_4
Chart_5
Chart_6
Chart_1
Charts
Charts Frames
Note (Double-click to delete the note)
Add Note

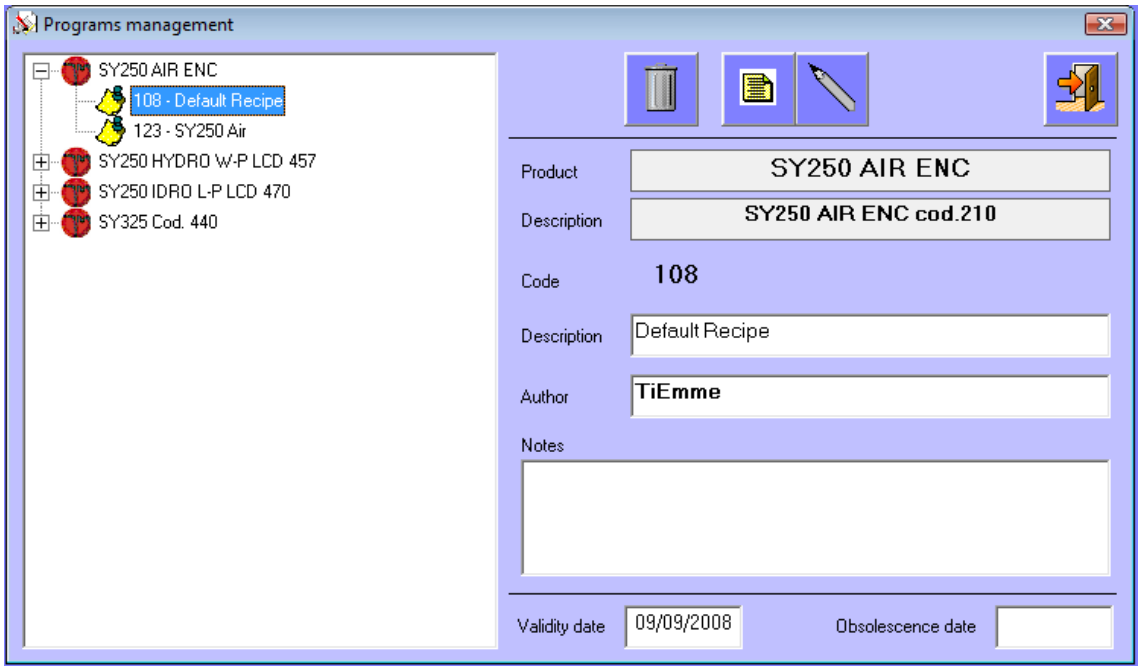
Pic. 12

5.5 Programs

This menu allows to manage, modify, copy, import, export and print the programs.

5.5.1 Programs Management [Full]

Selecting the menu *Programs* → *Program management* appears the window



Pic. 13

It is possible to choose a specific program of a product (for example "*Default Program*" of SY250 Standard cod.177 product). It is necessary to write the code, the description and the author.

Pushing the *Modify* button it is possible to modify the data inserted before. To save data push the *Save* button.

Pushing the *New* button it is possible to create a new program.
The new program is generated after saving data (the parameters' default value is set by the manufacturer; to change them it is necessary to open the *Modify programs* menu).

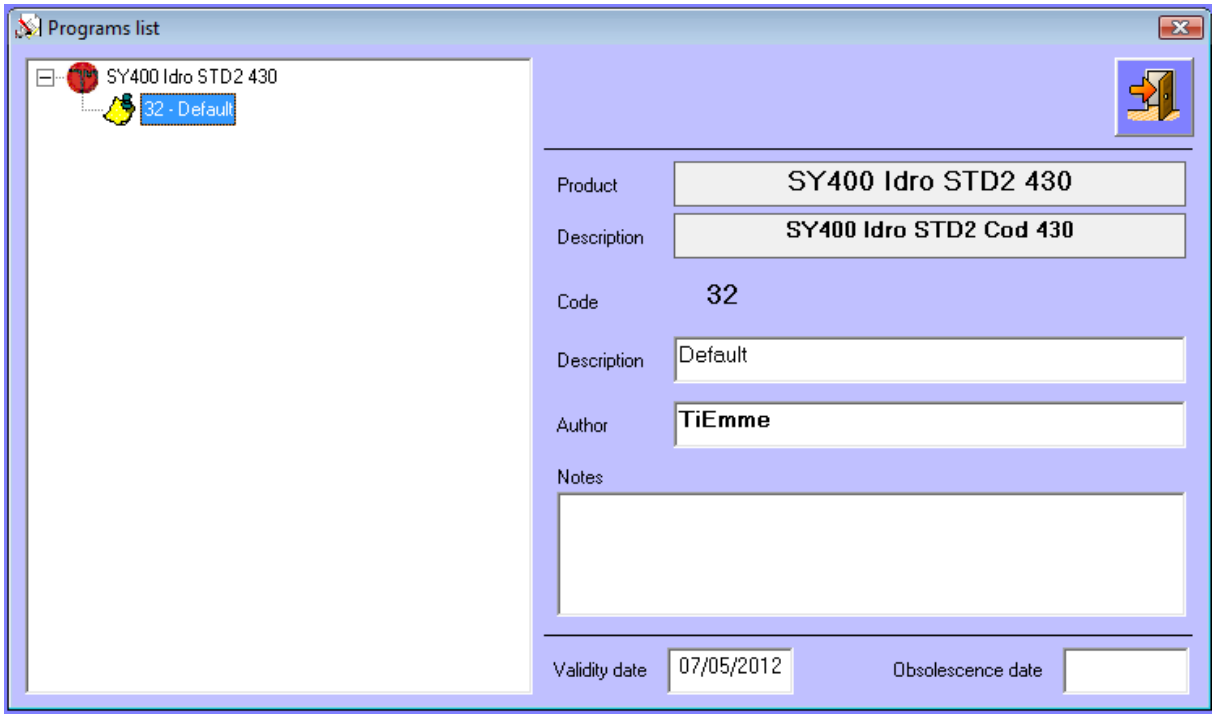
Pushing the *Delete* button it is possible to delete a program.

Pushing the *Exit* button it is possible to exit

Pushing the *Save* button it is possible to save

5.5.2 Program List [Light]

Selecting the menu *Programs → Program List*, you can view the products and programs in the database.

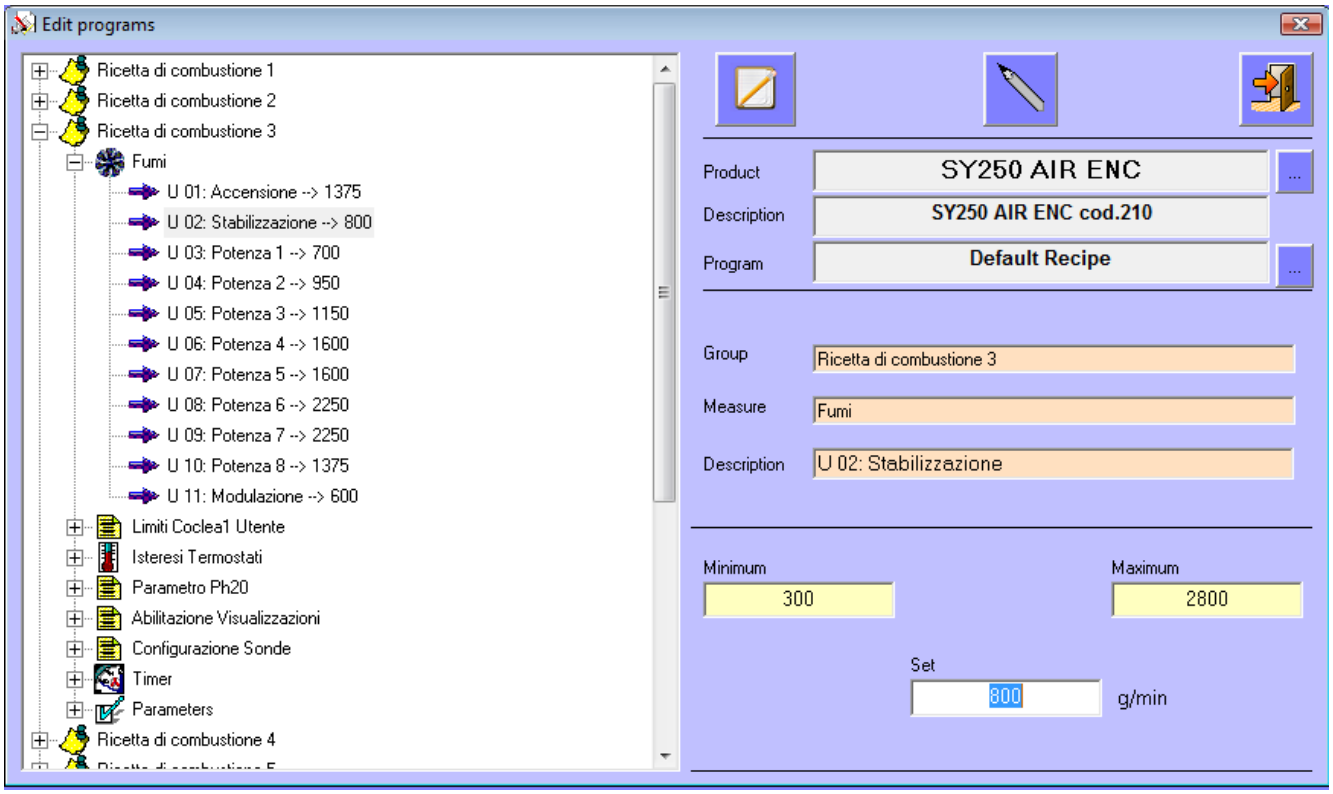


Pic. 14

For each program displays all available information may be given in the fields Code, Description, Author, Notes, Effective Date, Date of obsolescence.

5.5.3 Edit Program [Full]

Selecting the menu *Programs → Edit program* it is possible to modify the parameters' values for each programs.



Pic. 15

Procedure:

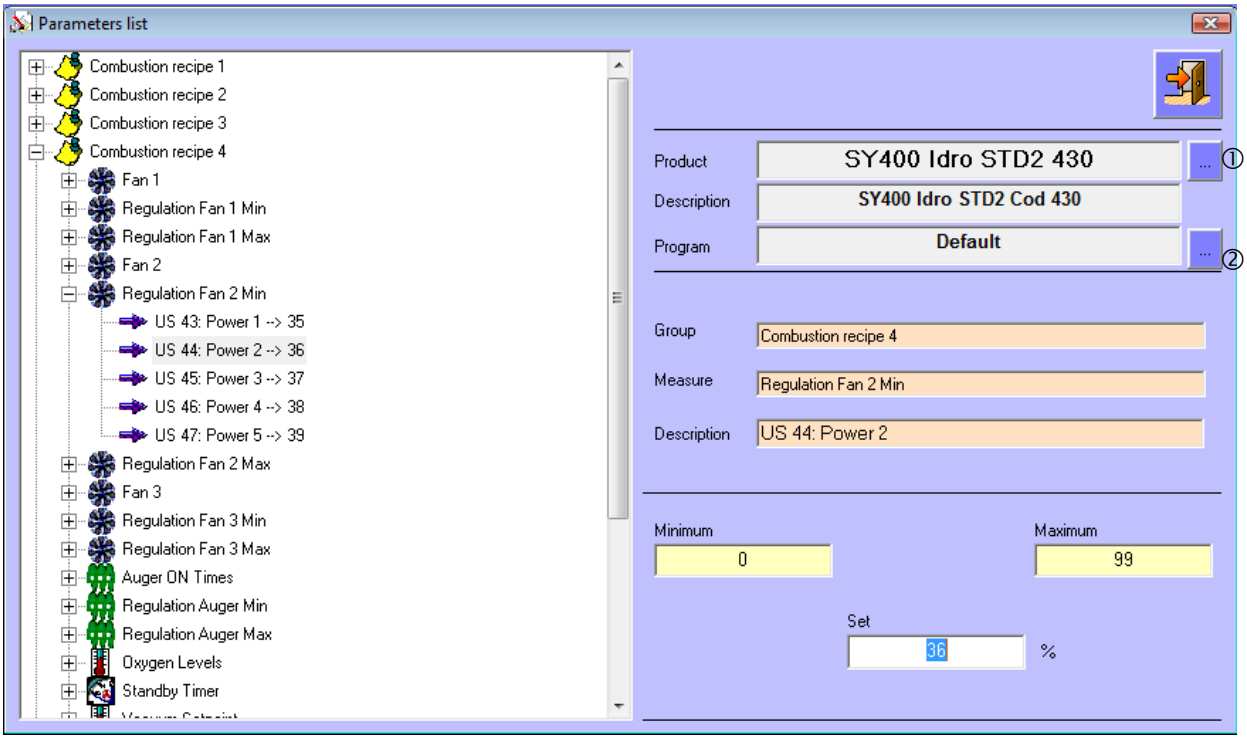
- Enter in the products list pushing the button ①
- Click to Select a product and then double click to choose. It will appear the window
- Enter in the programs list with the button ②
- Click to Select a program and then double click to choose;
- Select the parameter to modify and change its value in the **'Set' field**.

This value has to be between the Minimum and Maximum value. Otherwise the value is automatically set to the Minimum or Maximum value.

- Click the button to enter in modify
- Click the button to save and record the changes or on the button to cancel

5.5.4 Parameter List [Light]

Selecting the menu *Programs → Detail* parameters you can display the value of the parameters in each program.



Pic. 16

Procedure:

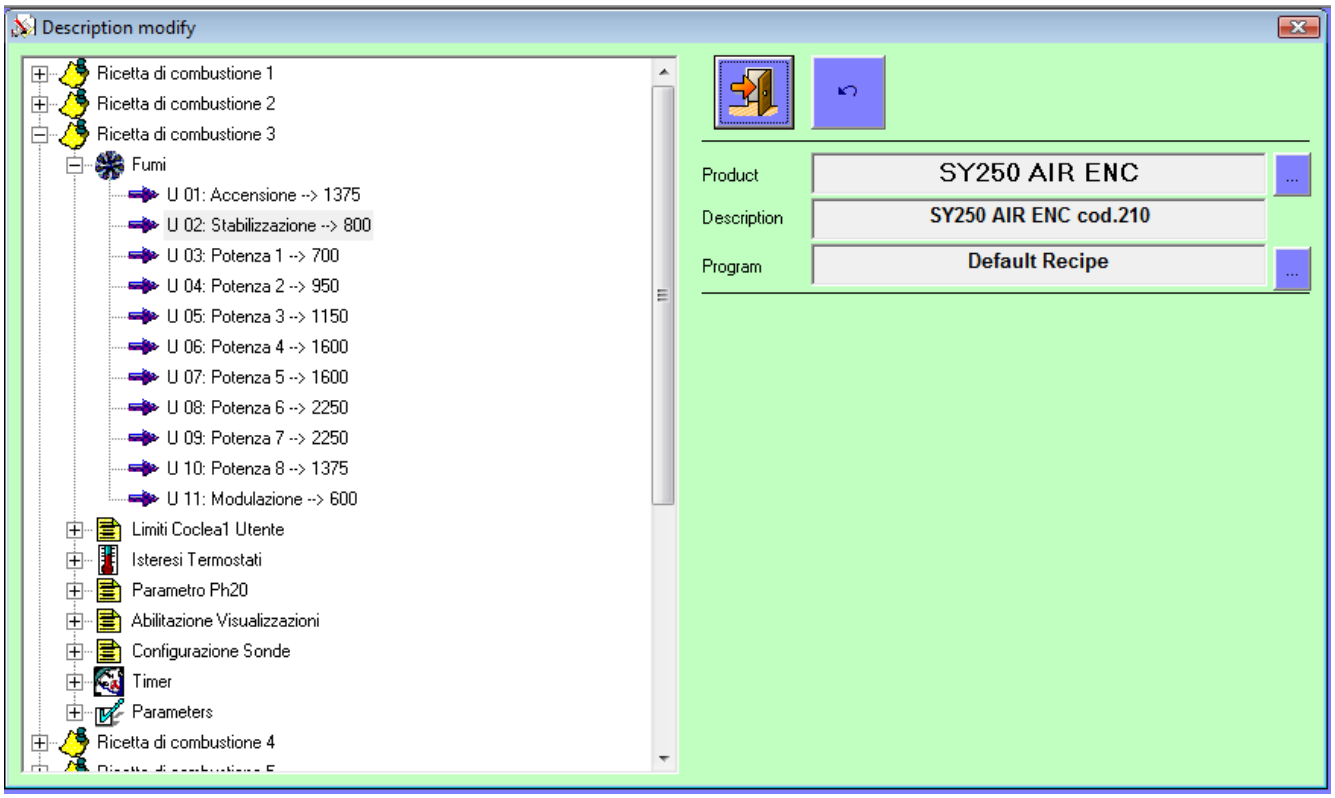
- Enter in the products list pushing the button ①
- Click to Select a product and then double click to choose. It will appear the window
- Enter in the programs list with the button ②
- Click to Select a program and then double click to choose;

5.5.5 Description Database Modify [Full]

System Evolution 4.0 allows to modify the descriptions of System2000 database.
Procedure:

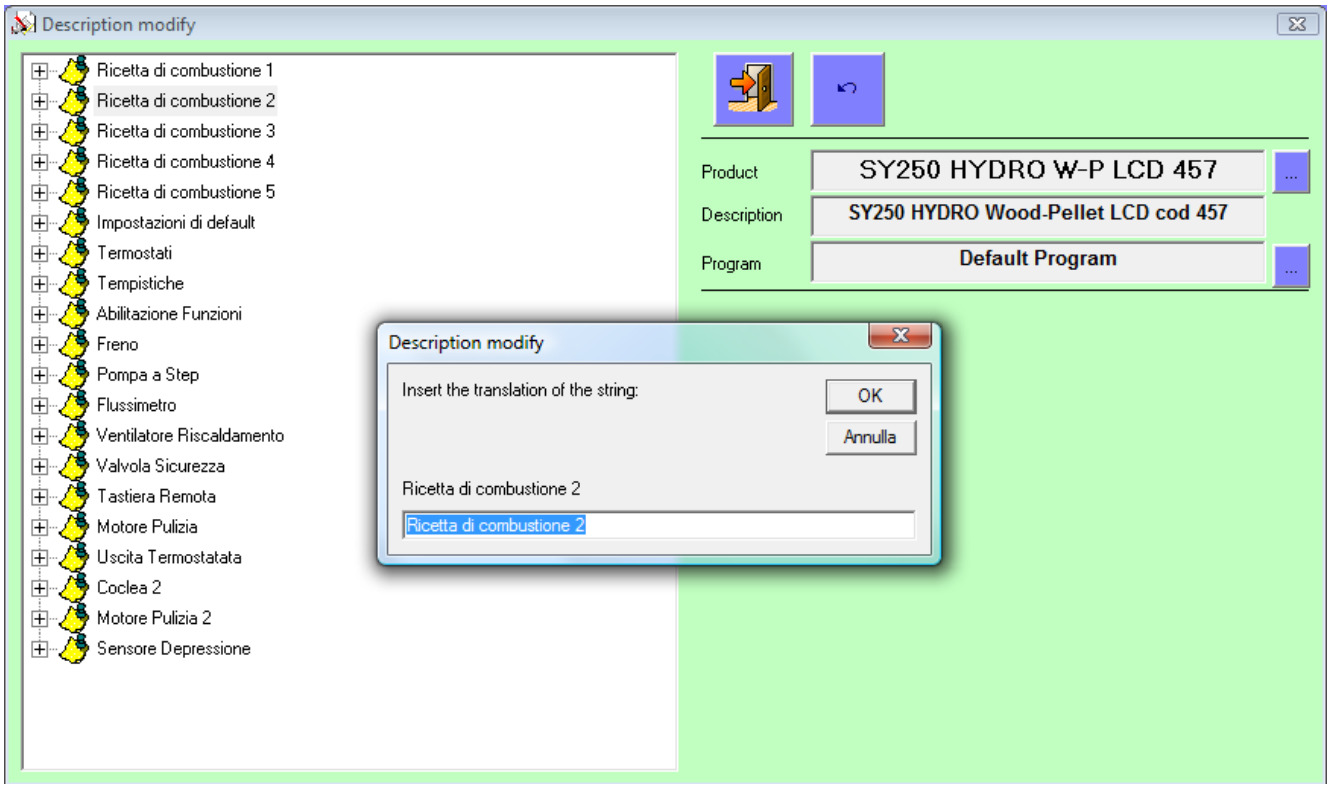
- Click on button .

The window will change colour to indicate a modifiable state.



Pic. 17

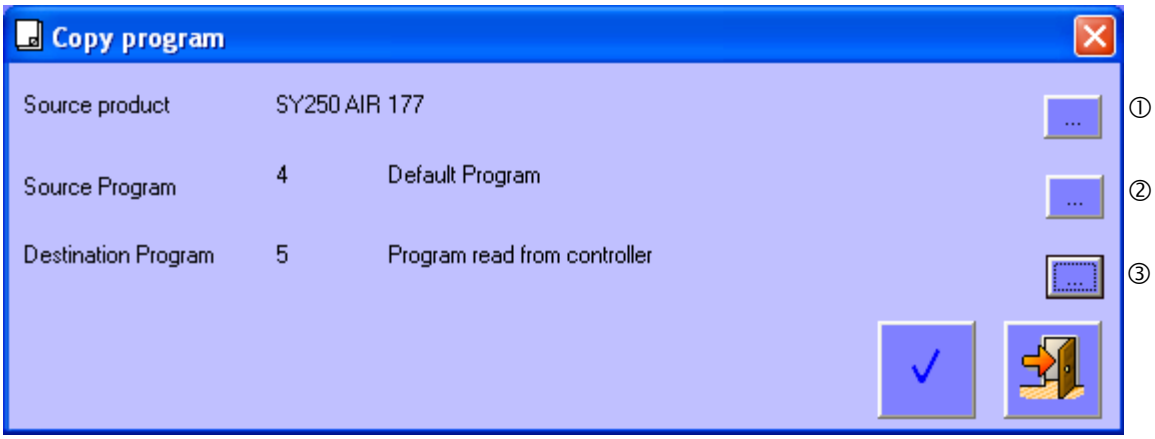
- Select the description to modify: it will appear;
- Insert the description and save (click on button 'OK')
- To cancel the new description and restore the old one click on button


Description modify
Ricetta di combustione 1
Ricetta di combustione 2
Ricetta di combustione 3
Ricetta di combustione 4
Ricetta di combustione 5
Impostazioni di default
Termostati
Tempistiche
Abilitazione Funzioni
Freno
Pompa a Step
Flussimetro
Ventilatore Riscaldamento
Valvola Sicurezza
Tastiera Remota
Motore Pulizia
Uscita Termostatata
Coclea 2
Motore Pulizia 2
Sensore Depressione
Product
SY250 HYDRO W-P LCD 457
Description
SY250 HYDRO Wood-Pellet LCD cod 457
Program
Default Program
Description modify
Insert the translation of the string:
OK
Annulla
Ricetta di combustione 2
Ricetta di combustione 2

Pic. 18

5.5.6 Copy Program [Full]

Selecting the menu *Programs* → *Copy program* it is possible to copy the data from a program to another one or copy with another name.



Pic. 19

Procedure:

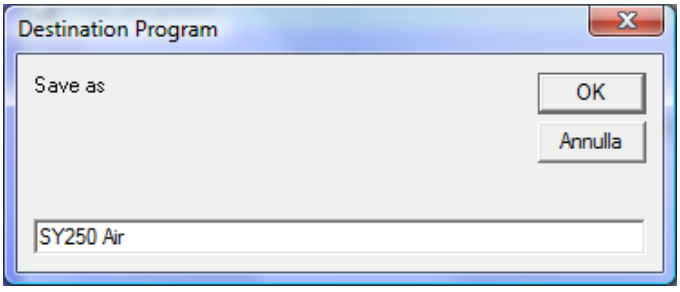
- Enter in the products list with the button ①
- Click to Select a product and then double click to choose
- Enter in the programs list with the button ②
- Click to Select a program and then double click to choose

Copying a program in another

- Enter in the destination programs list with the button ③
- Click to Select a destination program and then double click to choose
- Click on the button ✓ to start the procedure

Copy of the program with a new name

Click on the button ✓ without selecting the destination program to access the dialog for digit a new name.

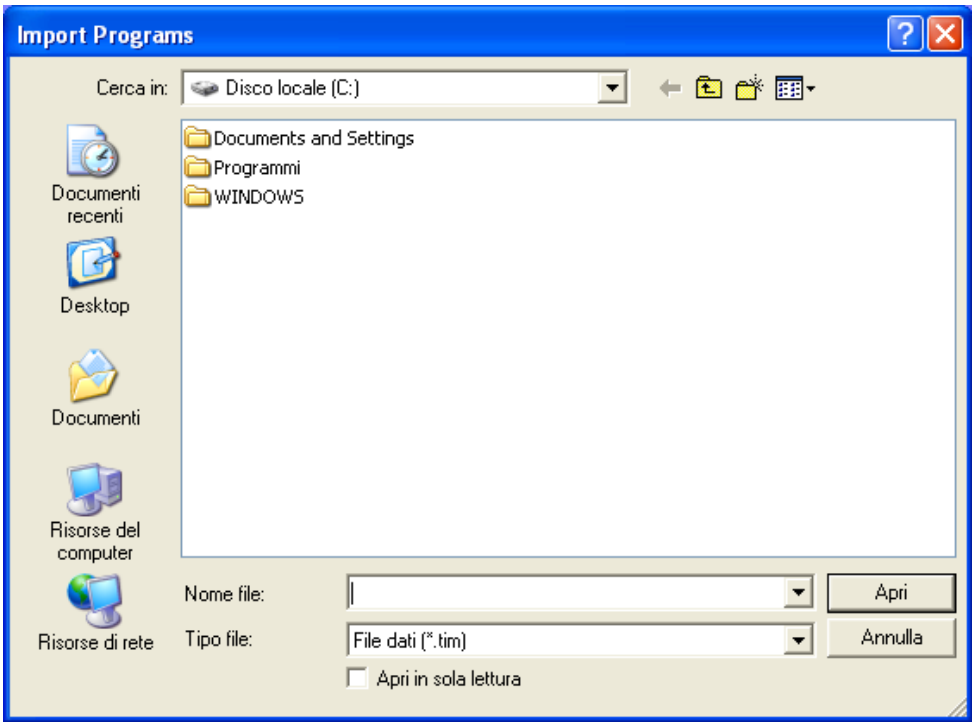


Pic. 20

- Click on the OK button to start the procedure.

5.5.7 Import Program

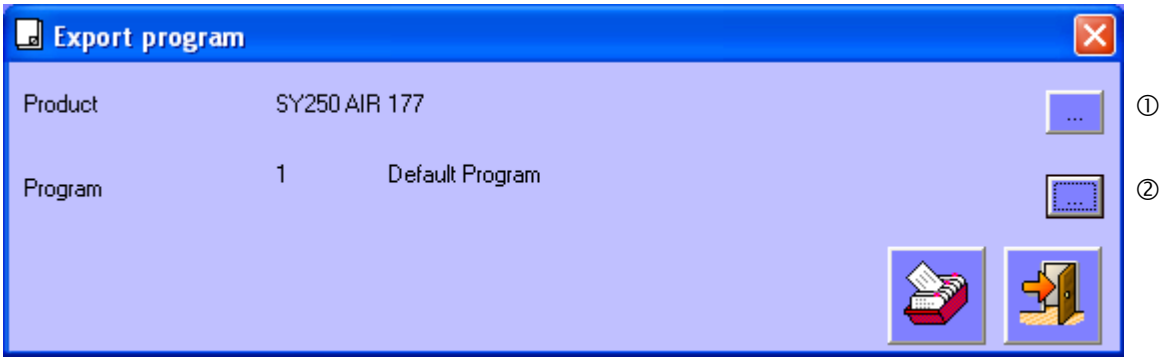
Selecting the menu *Programs* → *Import program* the system will open a window to chose the file in which there is the program to import.



Pic. 21

5.5.8 Export Programs

Selecting the menu *Programs* → *Export program* it is possible to export a program in a specific file of PC.



Pic. 22

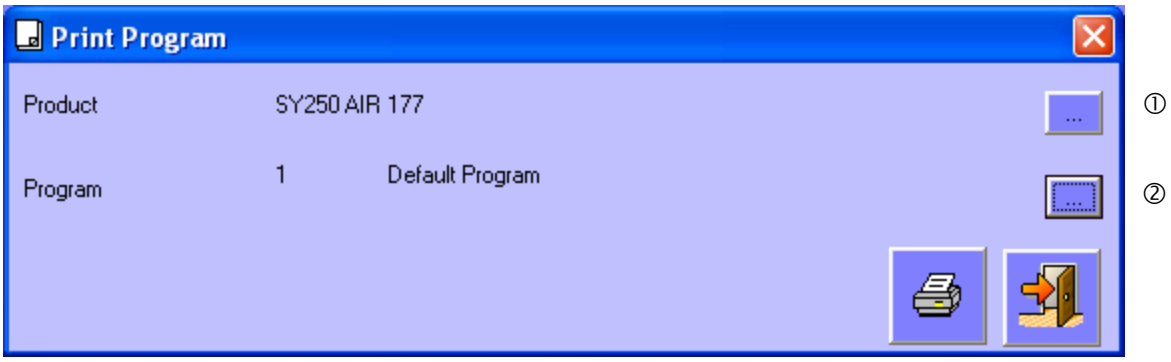
Procedure:

- Enter in the products list with the button ①

- Click to Select a product and then double click to choose
- Enter in the programs list with the button ②
- Click to Select a program to export and then double click to choose
- Push the button to start the procedure

5.5.9 PRINT PROGRAM

Selecting the menu *Programs* → *Print program* it is possible to print a created program.



Pic. 23

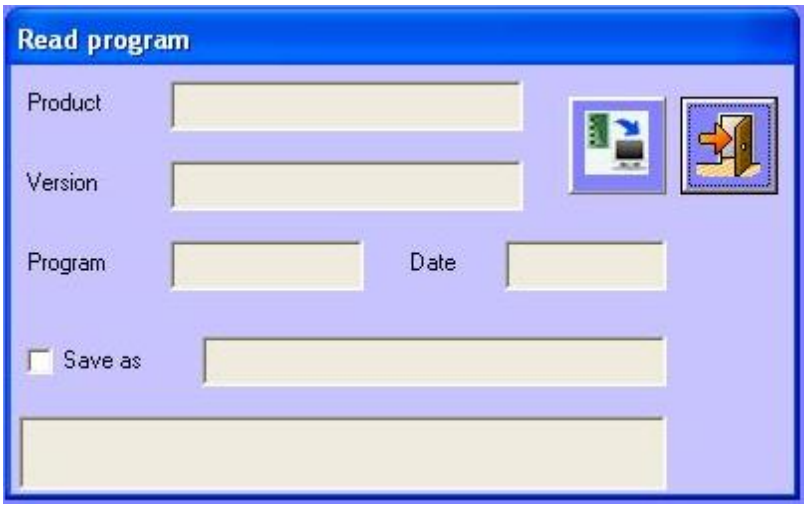
Procedure:

- Enter in the products list with the button ①
- Click to Select a product and then double click to choose
- Enter in the programs list with the button②
- Click to Select a program to print and then double click to choose
- Push the button to start the procedure
- Use the buttons to select the page to visualised
- Push the button to print
- Push the button to set the printer
- Push the button to export the selected program in a available size

5.6 Programming

5.6.1 Read Program

Select the menu *Programming → Read program* to read the parameters' values from the Control Board.

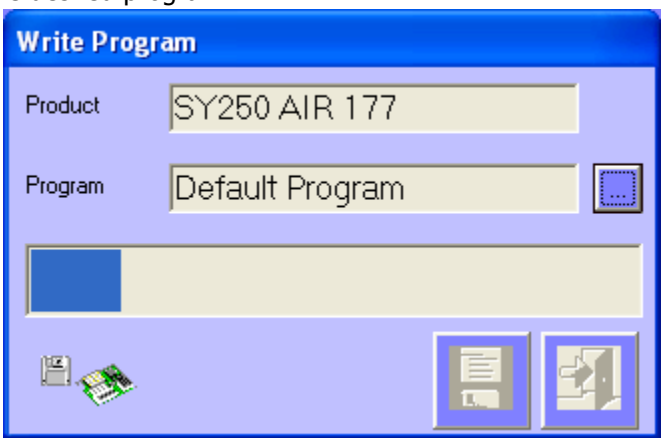


Pic. 24

The read values are saved in a specific program (*Program read from Control Board)* and they can be modify, copy and print as the other programs.
Note: During the function '*Program read from Control Board'* don't modify the data of the program created automatically by System Evolution 4.0.

5.6.2 Write Program into Control Board

Selecting the menu *Programming → Write program into Control Board* it is possible to program the Control Board with the values of the desired program.



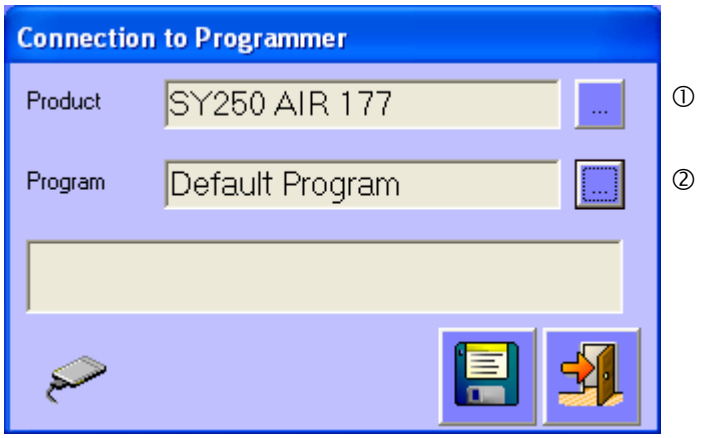
②

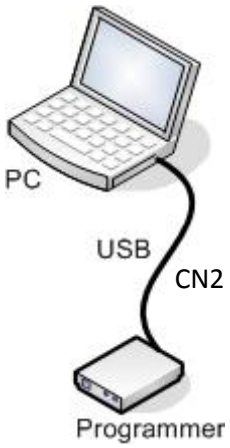
Pic. 25

- The software automatically recognises the Control Board connected to the serial port

- Push the button ② to select the program to write in the Control Board
- Click to Select a program and then double click to choose
- Start the procedure pushing the button

5.6.3 Write Program into Programmer





Pic. 26

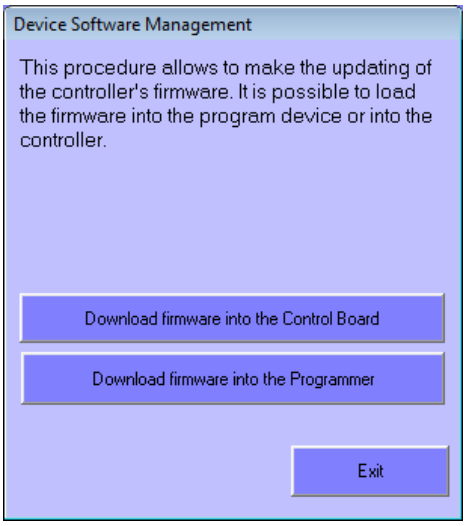
It is possible to do this function only having *USB_Programmer*.
Procedure:

- Connect *USB_Programmer* to a PC USB port

(if the OS requires the drivers for the new device, see Appendix B)

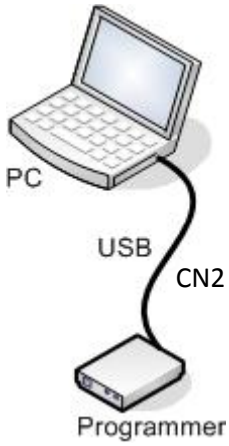
- select the menu *Programming → Write program into Programmer* to update the parameters' value of *USB_Programmer* with the chosen program
- Select on *USB_Programmer* where store the program (Sel1, Sel2, Sel3): see Appendix USB_Programmer
- Enter in the products list with the button ①
- Click to Select a product and then double click to choose
- Enter in the programs list with the button②
- Click to Select a program to write and then double click to choose
- Start the procedure pushing the button

5.6.4 Control board firmware upgrade


Device Software Management
This procedure allows to make the updating of the controller's firmware. It is possible to load the firmware into the program device or into the controller.
Download firmware into the Control Board
Download firmware into the Programmer
Exit

Pic. 27

Select the menu *Programming* → *Device Software Manager* to download the file with extension .tfw in the Control Board or in the *USB_Programmer*.



Pic. 28

5.6.5 USB_Programmer's firmware Update

Procedure:

- Connect *USB_Programmer* to a PC USB port using the CN2 cable

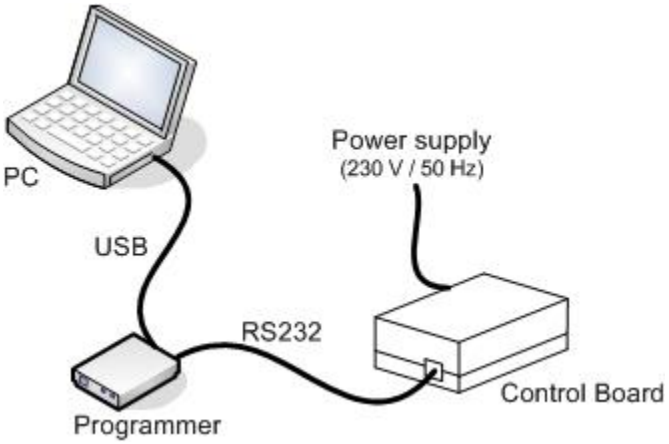
(if the OS requires the drivers for the new device, see Appendix B)

- Be sure that the used COM port is right (see Appendix B)

- Select *Programming → Device Software Manager*: it will appear the window of **Errore. L'origine riferimento non è stata trovata.**
- Click on the button "Download firmware in the *Programmer*" and follow the wizard procedure
- When required select the file to load in the *USB_Programmer* (it has extension tfw)

At the end of the procedure disconnect *USB_Programmer* from PC

Updating Control Board's Firmware



Pic. 29

To update the board's firmware from the PC follow this procedure:

- Connect *USB_Programmer* to a PC USB port

(if the OS requires the drivers for the new device, see Appendix B)

- Be sure that the used COM port is right (see Appendix B)
- Connect *USB_Programmer* to the control board's RS232 port
- Click on the "Download firmware in the Control Board" button and follow the wizard procedure
- When required select the file to load in the Control Board (it has extension tfw)

At the end of the procedure:

- Switch off the power supply
- Disconnect *USB_Programmer* from PC and board
- Switch on the power supply

5.7 Monitor Logger

System Evolution 4.0 allows to visualize the inputs, the outputs and the state system in real time.

5.7.1 Update / Insert New Monitor

Before start monitor connect the serial cable to the Control Board and supply the Control Board.
Procedure:
This function allows to install a new monitor or update an existing one.
Procedure:

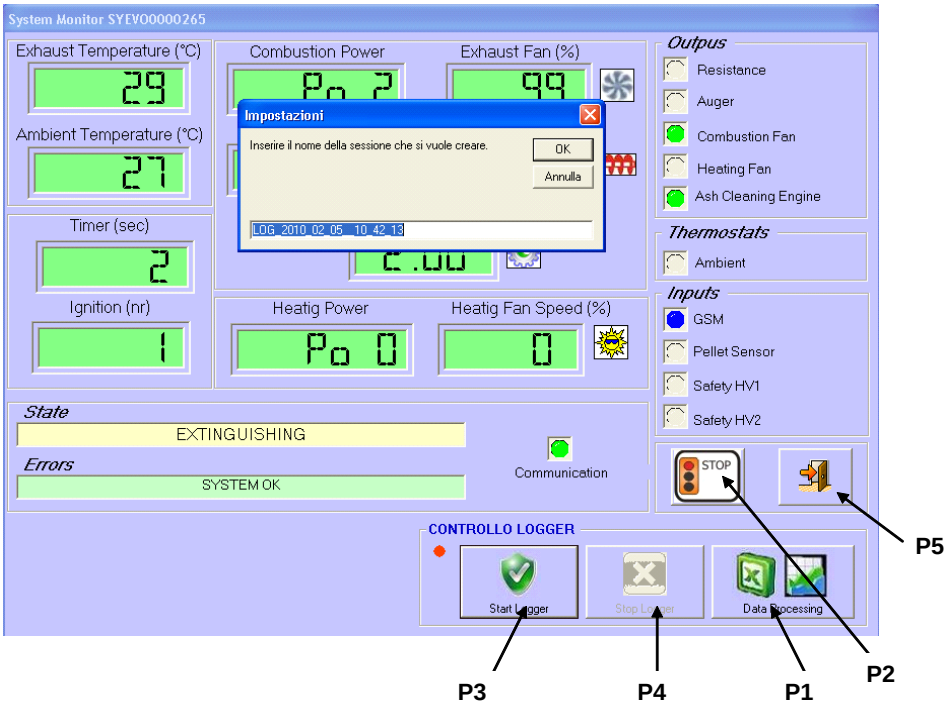
- Click Monitor → Update / Insert new Monitor
- Find the file with dll extension to import

The **Logger** allows to monitor, to do a graphic and to save data, inputs and outputs used by system to vary of time.
To start the Logger / Monitor

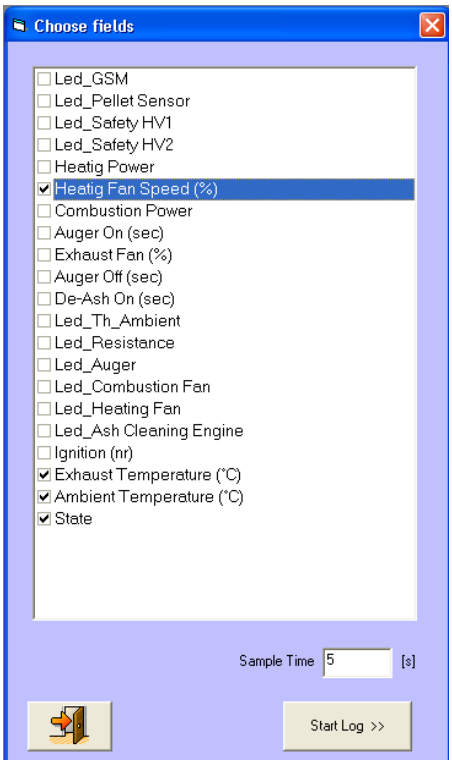
- From the menu of System Evolution
- Select *Monitor -> Start Monitor/Logger*

5.7.2 Start Monitor / Logger

- To monitor the way of system simply click on the button **P2**
- By clicking on the button **P1** it is possible to process the data acquired in previous sessions



Pic. 30



Pic. 31

- To start a new data acquisition click on **P2** button and then click on **P3** button.

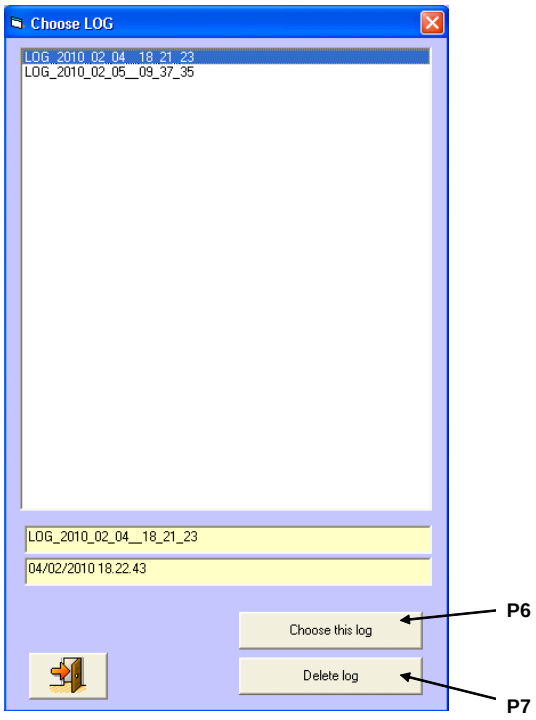
When a new data acquisition starts you have to:

- Enter the name of the new session (the systems assigns the default name as the current date and time)
- Select the items to be acquired
- Set the sampling time (in seconds)

Now clicking on the button **P1** you can do the graphs and save the data you are acquiring.
To end a data acquisition click on the button **P2** or **P4**.
To exit click on the **P5** button.

- **Data Processing**

- Choose the work session of interest and click the button **P6**: now you can do a graph and save data in a .xls file.
- To delete a stored session, select it and press **P7**.



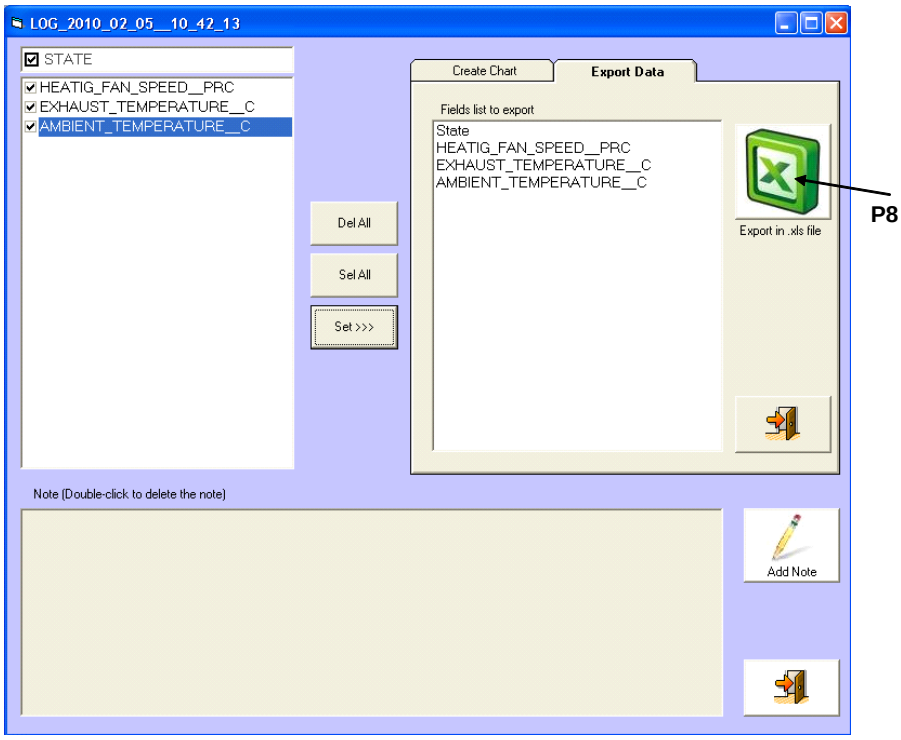
Pic. 32

- **Export Data**

- Select the items to be exported in the Excel file.
- Confirm your selection with the **Set>>>** button

To select all items click on the **Set All** button
To deselect click on **Del All** button

- To export click on **P8** button.

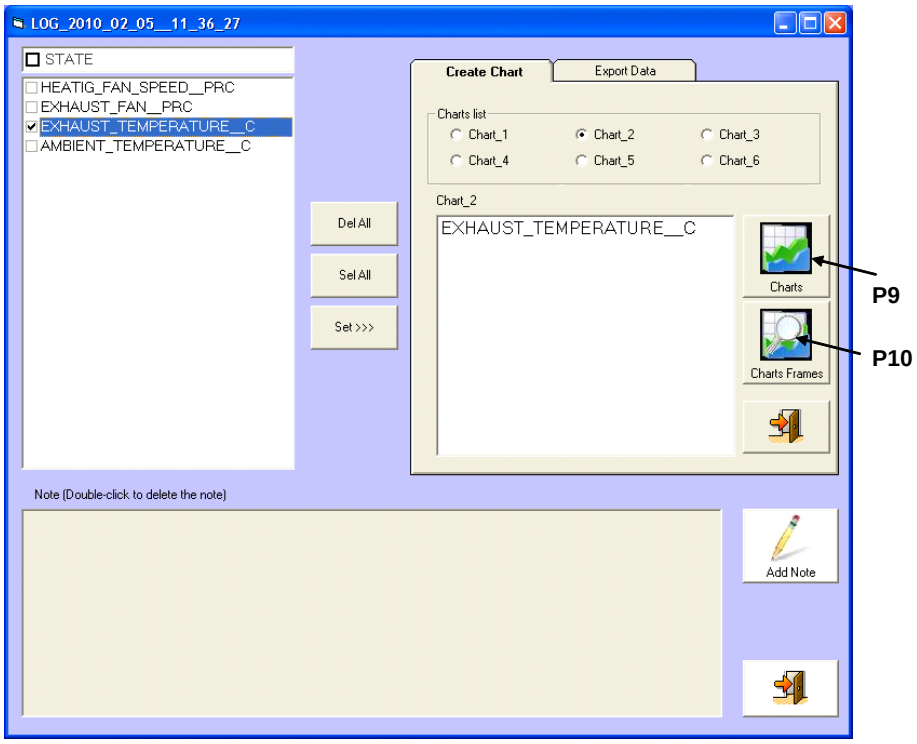


Pic. 33

- **Plot a Graph**

For each graph (Chart_) you want to visualize:

- Select the items to visualize
- click on the **Set>>** button to confirm
- click on the **Set All** button to select all items
- click on the **Del All** button to clear



Pic. 34

Clicking on the **P9** button it is possible to do:

- ***Complete Graph***

You can zoom or scroll the chart, make appear or disappear the legend, and if you are plotting a chart in real time, decide to update it or no.

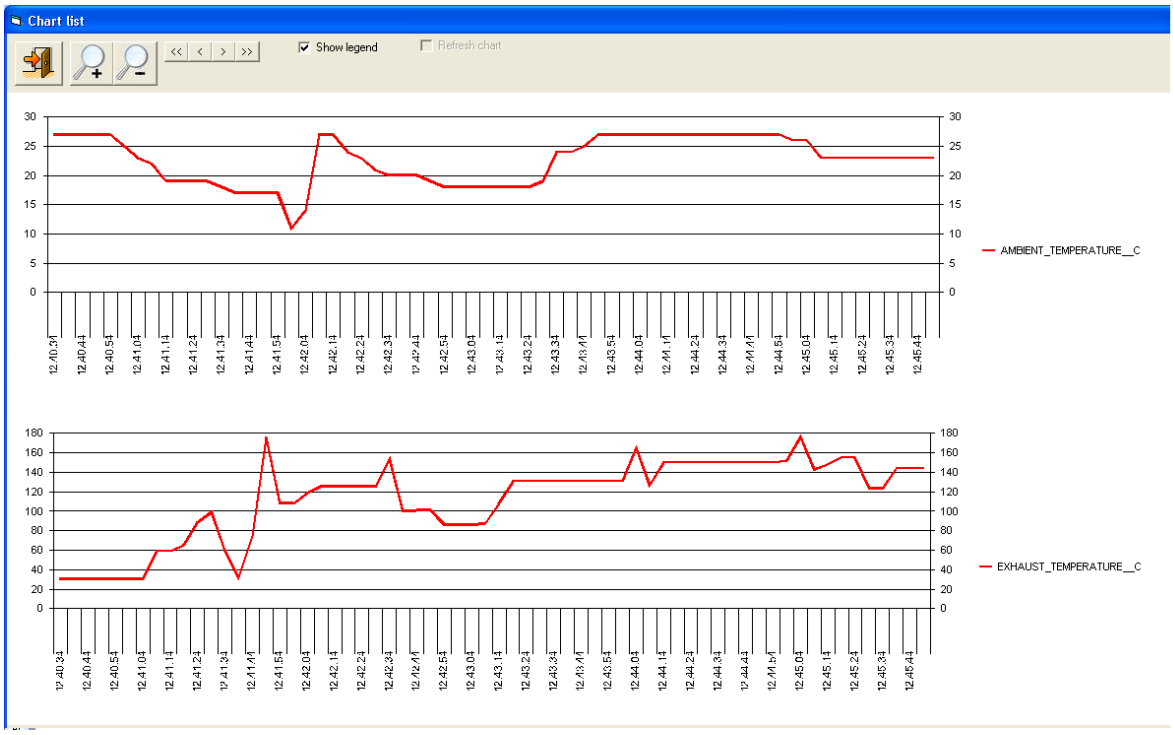


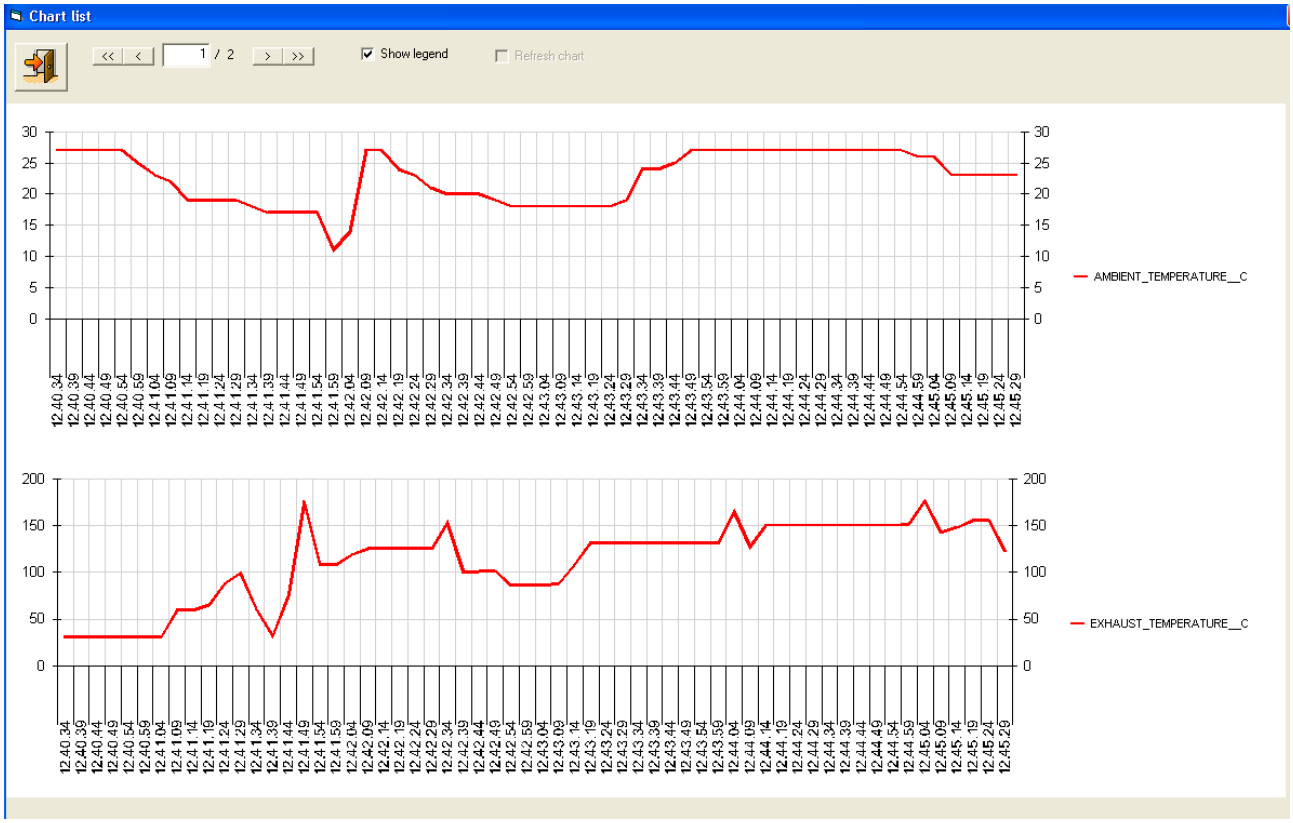
Chart list
Show legend
Refresh chart
AMBIENT_TEMPERATURE__C
EXHAUST_TEMPERATURE__C

Pic. 35

Clicking on the **P10** button it is possible to do:

- ***Frames Graph***

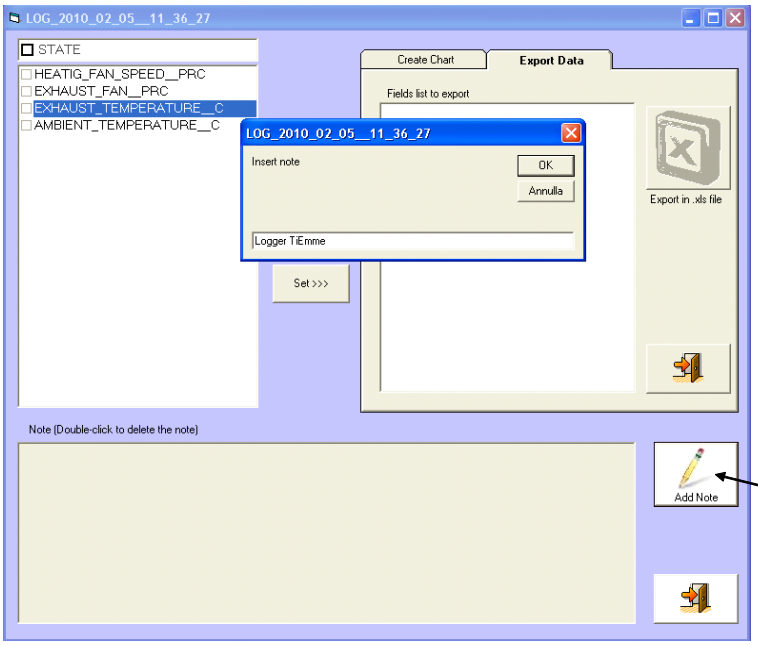
You can scroll the chart page by page, make appear or disappear the legend, and if you are plotting a chart in real time, decide to update it or no.



Pic. 36

- **Insert Notes**

Click on the button **P11** to insert notes and comments about the chosen work session, insert the text and press the button **OK**. For each Logger you can enter more notes; to erase a double-click on the note to be deleted.

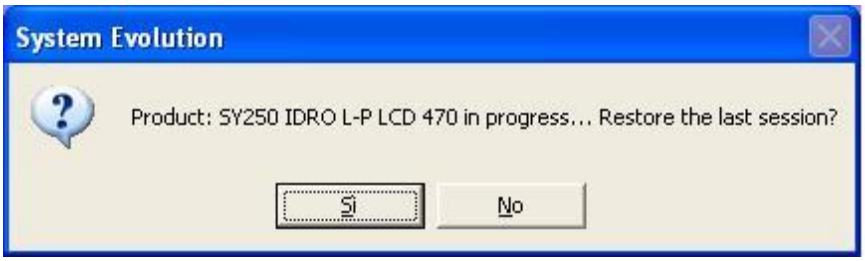

LOG_2010_02_05__11_36_27
STATE
HEATIG_FAN_SPEED__PRC
EXHAUST_FAN__PRC
EXHAUST_TEMPERATURE__C
AMBIENT_TEMPERATURE__C
Create Chart
Export Data
Fields list to export
Export in .xls file
LOG_2010_02_05__11_36_27
Insert note
OK
Annulla
Logger TiEmme
Set >>>
Note (Double-click to delete the note)
Add Note
P11

Pic. 37

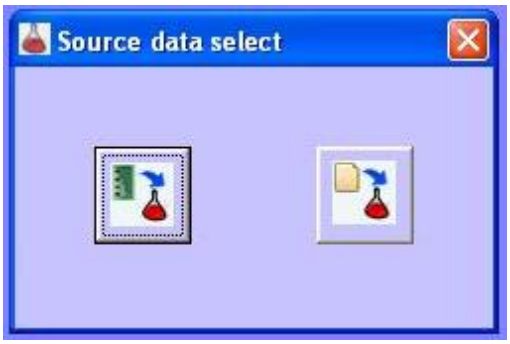
5.8 LAB MODE [FULL]

The Lab mode provides an environment for the development of programs before being saved in the product database.

Clicking on the icon opens the window to start the development of new programs. First of all the software ask if the user want to recover the last work session to the state it was left. If the user will not choose this option, the import procedure will start.



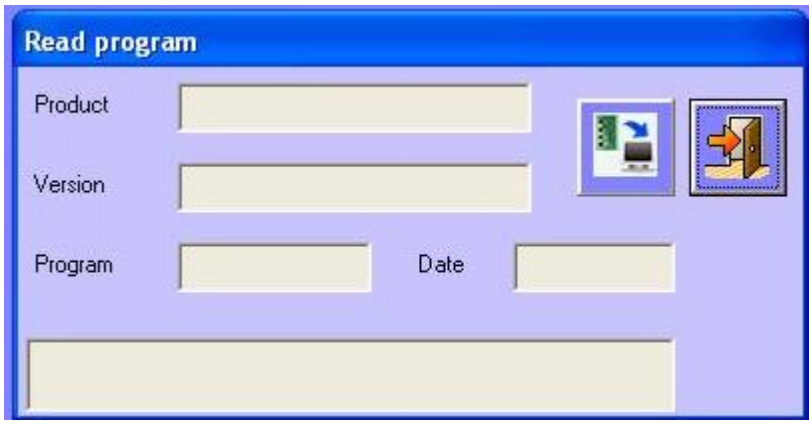
Pic. 38



Pic. 39

	Importing Data into the development environment by reading the program directly from the control board connected to the PC
	Importing Data into the development environment from a previously saved program in the product database

Clicking on the icon opens the window for the reading of the date from the control board

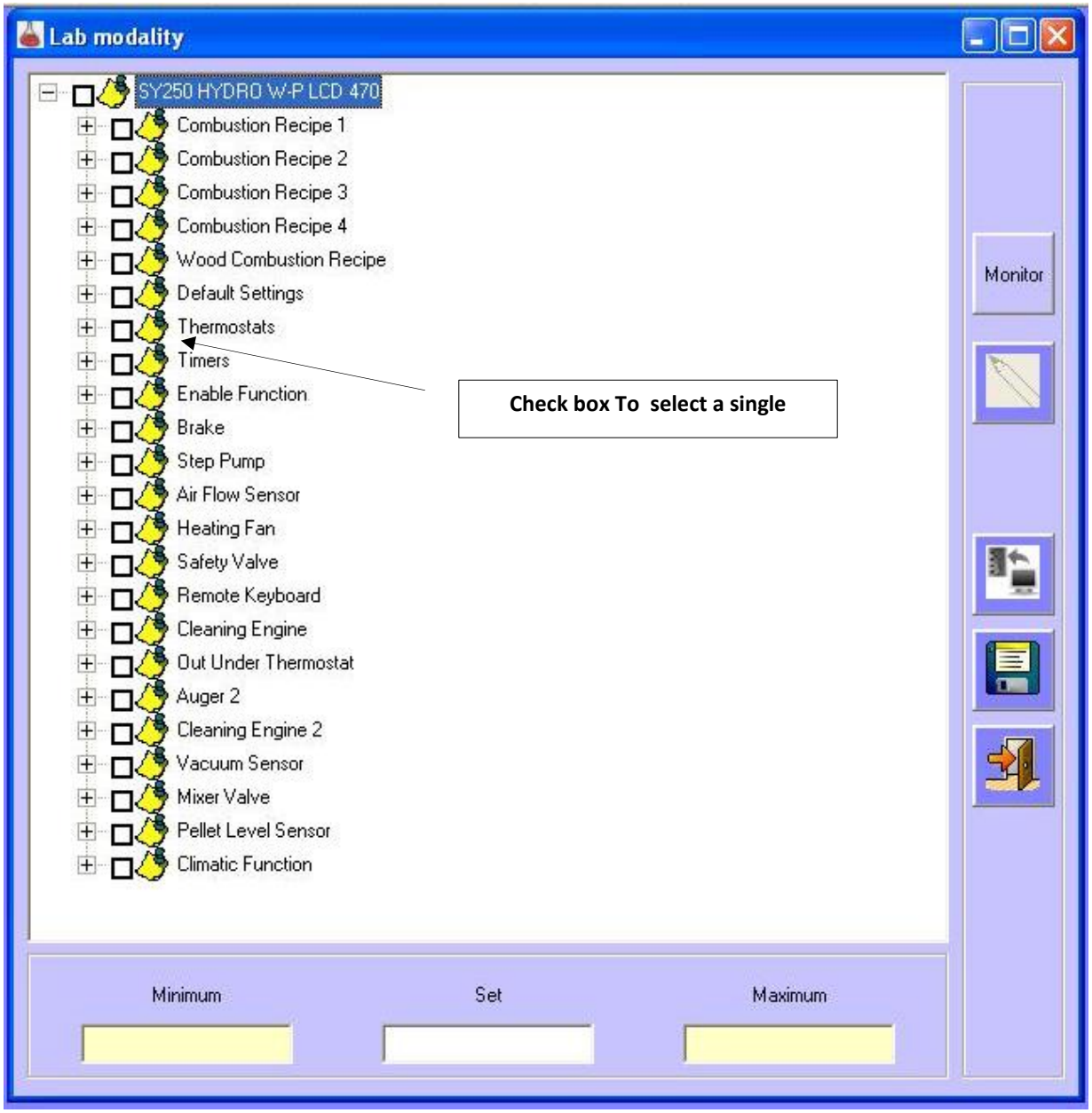


Pic. 40

Clicking on the icon opens the windows for importing data from a program already in the database of the product. Select the product source, and then the program to proceed with the import.

Pic. 41

At the end of import of access to the development environment laboratory.



Pic. 42

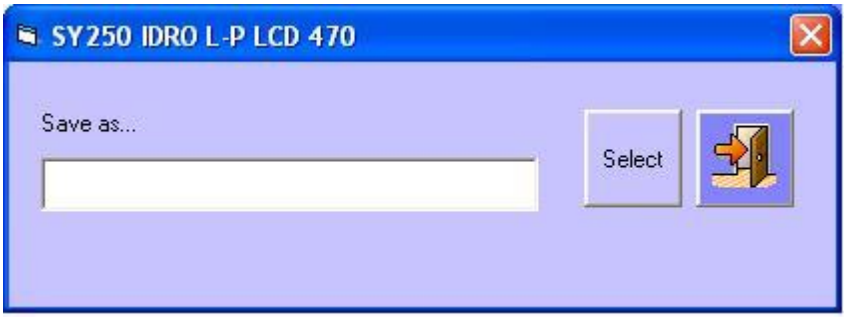
In this section the user is able to use following functionality:

	Selecting and programming single / multiple parameters into the control board;
	Changing the set parameters;

		Saving in the product database a copies of the program being processed;
		Opening monitor/logger windows.

In case of multiple parameter programming, at the end of this operation all parameters will be automatically deselected
For the procedures of editing and updating of the programs is possible to refer at the others paragraph in this manual
Clicking on the icon you can save in the product database a copy of the program currently being executed. This opens the following window.

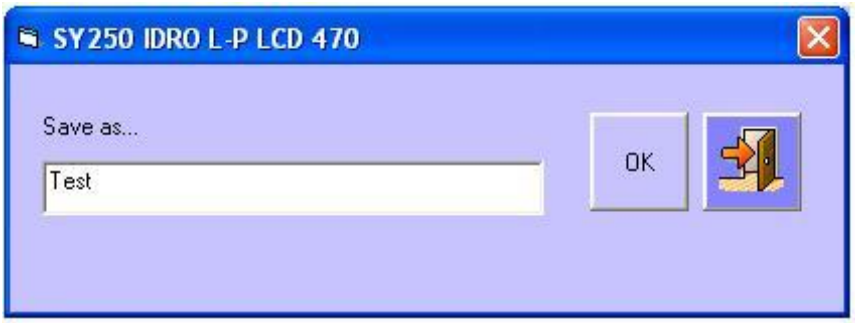
Clicking on the icon you can save in the product database a copy of the program currently being executed. Than opens the following window.



Pic. 43

To save a copy of the program can proceed in two different ways:

- Enter a name in the blank field under the heading "Save As". Select icon is replaced with the OK icon that you must click to confirm;



Pic. 44

- Click on the Select button to choose from a existing program list to overwrite;

5.9 Tools

5.9.1 Import Database

- **Import System Database**

Click on the Import system database menu to open the dialog box where is possible to select the file System2000.mdb. to import.

- **Import Language Database**

Click on the Import language database menu to open the dialog box where is possible to select the file Text.mdb to import.

5.9.2 Export Database

- **Export System database**

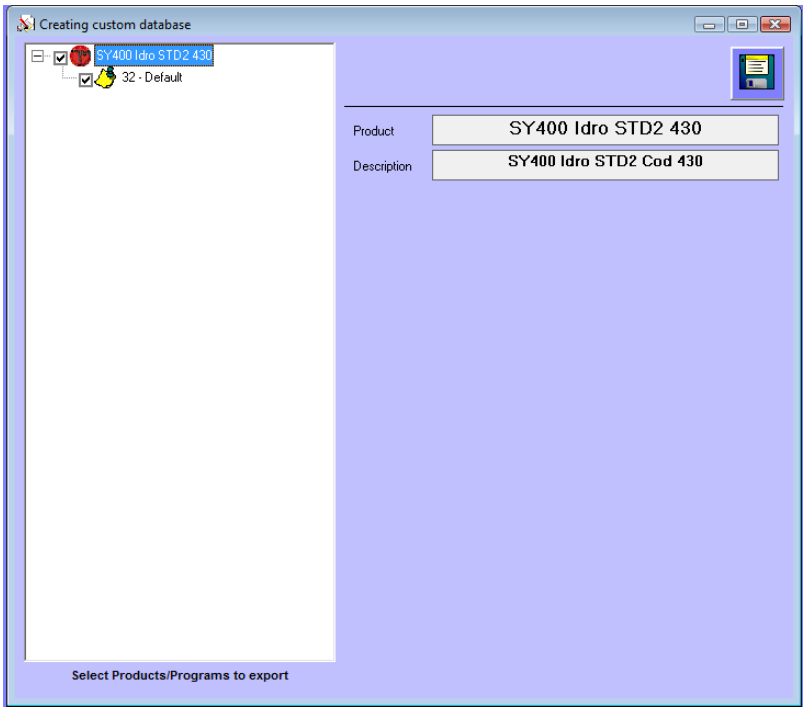
Click on the Export system database menu to open the dialog box where is possible to select where the file System2000.mdb will be saved.

- **Export Language Database**

Click on the Export language database menu to open the dialog box where is possible to select where the file Text.mdb will be saved.

5.9.3 Creating custom Database

Click on the **Creating custom database** menu to open the dialog box where is possible to select products or programs to export.



Pic. 45

Clicking on the **Save As** button you can save a custom copy of System2000 database with the selected elements.

5.9.4 Backup Database

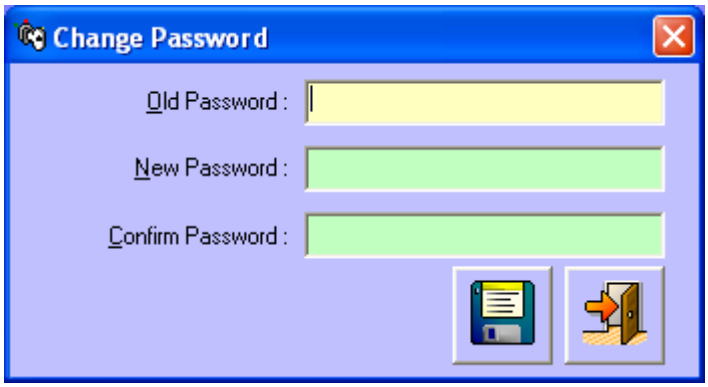
The software automatically performs a backup of the system database in the x:\TiEmme elettronica\SystemEvolution\Backup folder in two ways:

- **Daily Backup.** At first start the system creates a backup copy named System2000_YYYYMMAA_bak.mdb;
- **Import Database.** For every import operation the software creates a backup copy named System2000_YYYYMMAA_HHMM.mdb.

5.10 Configuration

5.10.1 Change Password

This menu allows to change the password of System Evolution 4.0.



Pic. 46

To change the password:

- Insert the current password in the field *Old Password*
- Insert the new password in the field *New Password*
- Insert the new password in the field *Confirm Password*
- Save data pushing

5.10.2 Printer Settings

This menu allows to set system's printer.

5.10.3 Language Selection

This menu allows to change the language. It is possible to select Italian, English or a customizable language.
Procedure:

- Select Configuration → Language Selection

If you want to use the third customizable language:

- Select 'My language'
- Insert the name of the language in the box
- Push the button to do the translation

Pic. 47

To insert the translation:

- Click on the line where insert the translation
- Write the translation in the white box at the right bottom
- Push the button to save
- Repeat the procedure for the other translation

There are several tools:
find–cerca: to search a word in the list

- Write the word in the white upper left box
- •Select the language
- •Click on the button "find - search"

all–tutti: to see the full list of the used words

- •Click on the button "all-tutti"

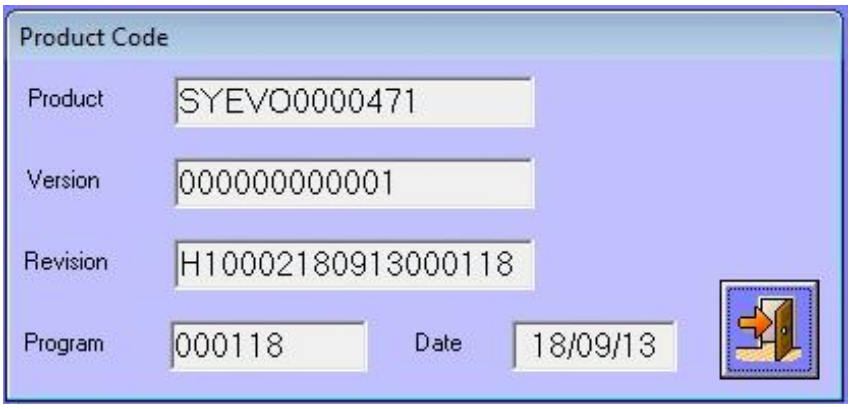
Not Translated Words Visualization:

- Push the button

Pic. 48

5.10.4 Product Code

Select the menu *Configuration* → *Product* Code to access the display window of the product identification data.


Product Code
Product
SYEVO0000471
Version
000000000001
Revision
H10002180913000118
Program
000118
Date
18/09/13

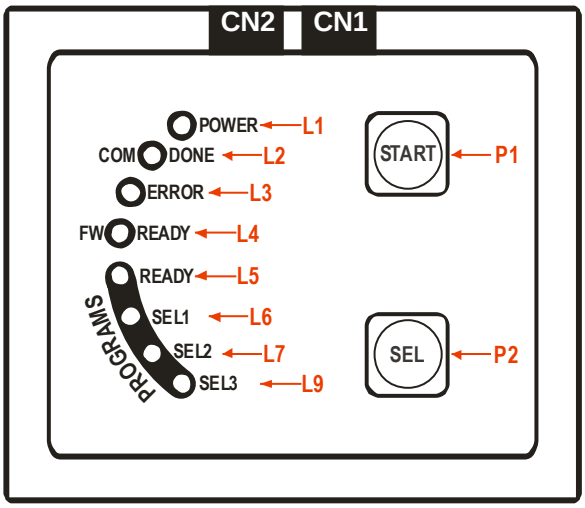
Pic. 49

6. Appendix A

6.1 USB_Programmer

USB_Programmer is a device which allows to:

- Save three programs to modify the Control Board functioning
- Update the control board with a Program set
- Save a firmware
- Update the control board with the saved firmware



Pic. 50

6.1.1 Buttons

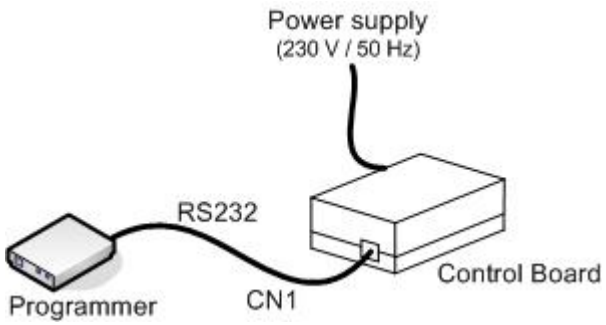
Button	Code	Function
P1	START	Start programming
P2	SEL	Select parameters' program

6.1.2 Led

Led	Code	Function
L1	POWER	Led ON: *Programmer* supplied
L2	COM / DONE	Led ON: programming completed Led blinking: programming in progress
L3	ERROR	Led ON: error
L4	FW / READY	Led ON: *Programmer* ready to update the board's firmware
L5	READY	Led ON: *Programmer* ready to update the board's parameters
L6	SEL1	Led ON: program nr.1 selected
L7	SEL2	Led ON: program nr.2 selected
L8	SEL3	Led ON: program nr.3 selected

6.2 Functions

6.2.1 Update Control Board Firmware

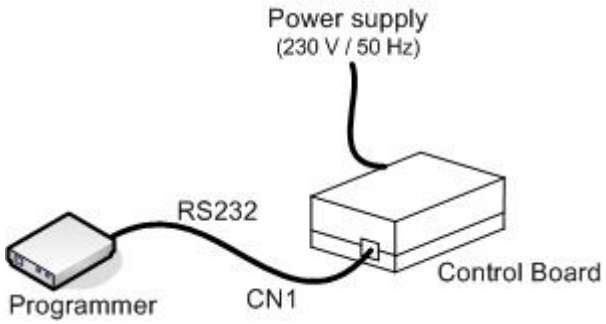


Pic. 51

To update the firmware of the Control Board:

- Make sure USB_Programmer contains the firmware you want to download on the Control Board
- Otherwise load on USB_Programmer the firmware you want to download (0)
- Switch off the power supply to the Control Board
- Connect USB_Programmer to the connector RS232 of the Control Board via CN1 cable
- Switch on the power supply to the Control Board (L1 LED On)
- Check that the LED L4 is on and the LED L3 is off
- Press the button P1 for 3 seconds: the LED L2 first blinks and then, at the end of programming, remains on
- After programming switch off the power supply to the Control Board
- Disconnect USB_Programmer
- Switch on the power supply to the Control Board

6.2.2 Update Control Board Program



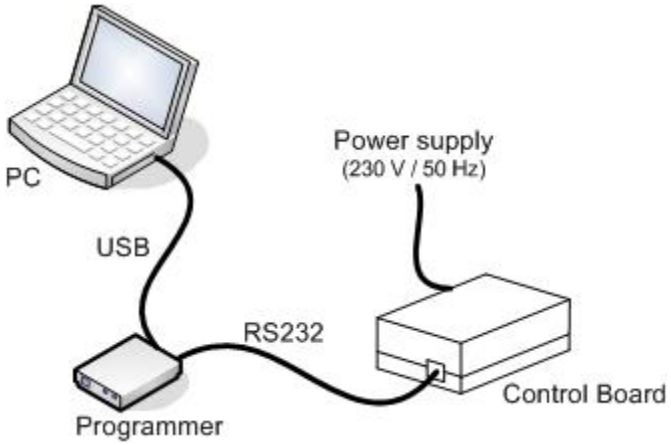
Pic. 52

To update the program of the Control Board:

- Make sure USB_Programmer contains a program compatible with the firmware of the Control Board
- Otherwise load on USB_Programmer the program you want to download (See par. 5.6.3)

- Connect USB_Programmer to the connector RS232 of the Control Board via CN1 cable
- Select with the P2 button the program (SEL1, SEL2 or SEL3) to download
- Verify that the L5 LED is on and the LED L3 is Off (otherwise select a different program, because that choice is not compatible with the Control Board's firmware)
- Press the button P1 for 3 seconds: the L2 LED blinks
- When the L2 LED becomes On the programming is finished
- Disconnect USB_Programmer

6.2.3 Serial-USB Adapter



Pic. 53

USB_Programmer is also a Serial-USB adapter to update the parameters and firmware of the Control Board by PC.

7. Appendix B

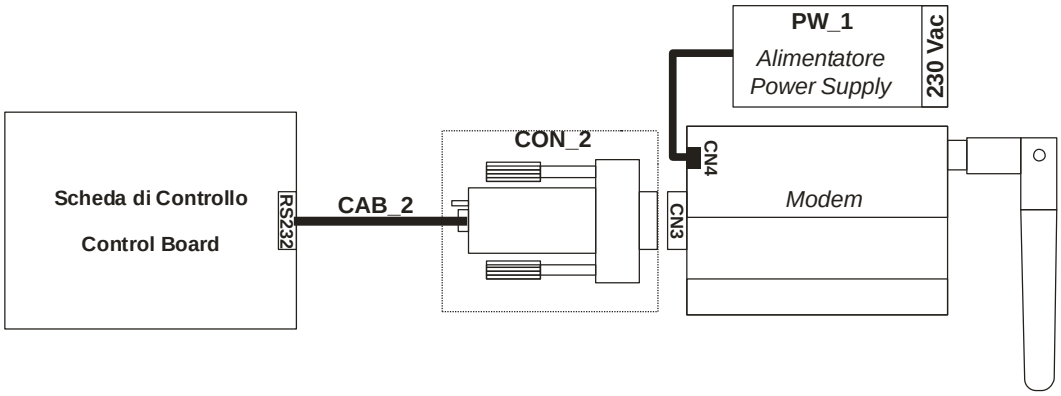
7.1 Installing Drivers USB Programmer

The installation of the drive needed to interface with the USB Programmer is performed during the installation of the Software System Evolution.
In the event that the automatic installation is will not close correctly it is possible to do this manually, by running the setup file USBdriverssetup.exe present in the installation cd into the directory X:\Drivers folder (where X identifies the driver where is present the CD-Rom).

During the installation process will be automatically assigned (by the operative system) the first number COM port available. In case of communications problems with USB programmer device is necessary to check (in the Device panel for Vista, Win 7, Win 8, and in the device manager for Win XP) the number of the port assigned by the system. If the Com port number is out of the range 1-16, is necessary to manually reassign a port number in the range indicated. All drivers are digitally signed by TiEmme elettronica to guarantee the origin,

8. Appendix C

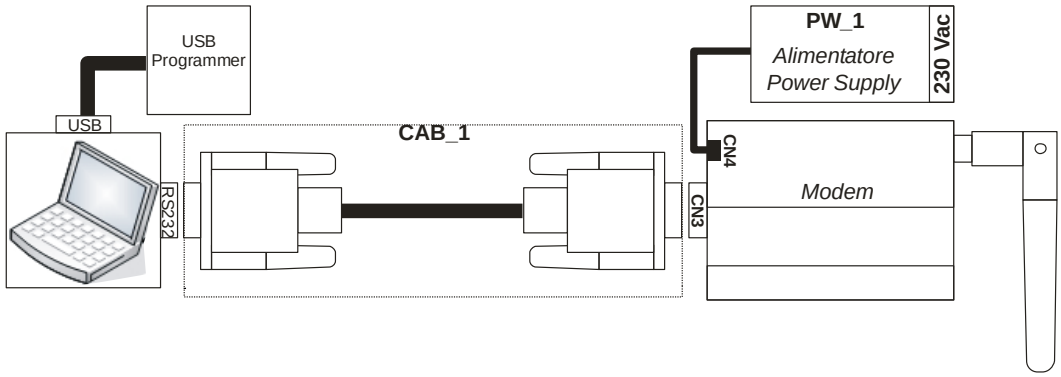
8.1 modem – Control Board Connection



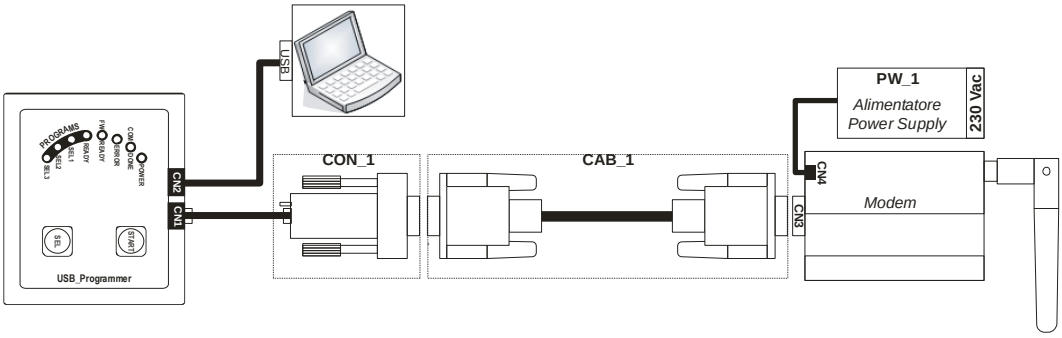
Pic. 54

CAB_2: plug to plug cable. (furnished)
CON_2: plug adaptor to DB9 male high density (15 pin) (furnished)

8.2 modem – PC Connection for System Evolution



Pic. 55



Pic. 56

CAB_1: DB9 pin female to DB9 high density male (15 pin).(furnished)
CON_1: plug adapter to DB9 pin (furnished)

8.3 Led Modem Status.

We include a table summarizing the status of the modem which refers to the yellow LED on the side of the device:

GSM LED	LED activity	Modem Status
ON	LED on fixed	The modem is powered, it is ready to function but not yet recognised by the network; the PIN code has not yet entered or the antenna is not connected.
	LED flashing (once every 2 seconds)	The modem is powered, the PIN code is active, the modem is recognised by the network and is ready to make or receive a call (Idle mode).
	LED flashing (once a second)	The modem is powered and currently in communication (Voice, Data or Fax)
OFF	LED off	The modem si not powered or is in the RESET phase

Note: Please disable PIN request on SIM card before insert in modem.

9. Appendix D NET Link

9.1 Introduction

Net Link is a converter serial / ethernet able to connect to the LAN the TiEmme Elettronica control boards equipped with RS232 interface. Using NETLink and System Evolution 4.0 is possible to perform all management operations by remote, using as the connection mode the local LAN or internet.

9.2 Overview of the product

9.2.1 Hardware Components

Components included

- The following components are included with the product:
- NETLink unit
- External power supply
- A CD-ROM containing documentation, firmware, configuration software, etc.
- Plug RJ11 → DB25 Serial Port adapter;
- Connection cable with plug RJ11

Components not included

Ethernet cable CAT5 10/100/1000BASE-T for connection to the Network;

9.2.2 Key features

This section describes the hardware components found on your NETLink unit

- **Serial Port**: the twill be used to connect to control board.;
- **Activity:** This LED flashes to indicate LAN activity.
- **Link10/100**: This LED indicates the Ethernet connection speed:
  - Green:10 Mbits
  - Yellow: 100 Mbits
  - Off: no LAN connection
- **Power/Ready:** This LED can cycle through several colors (yellow, green, red) during a boot process, but should complete with a solid green light. If the LED is green after power up but continues to cycle on and off (flashes green), this indicates that the console switch is in the on position.
- **External Power Supply:** This is an external AC power supply.

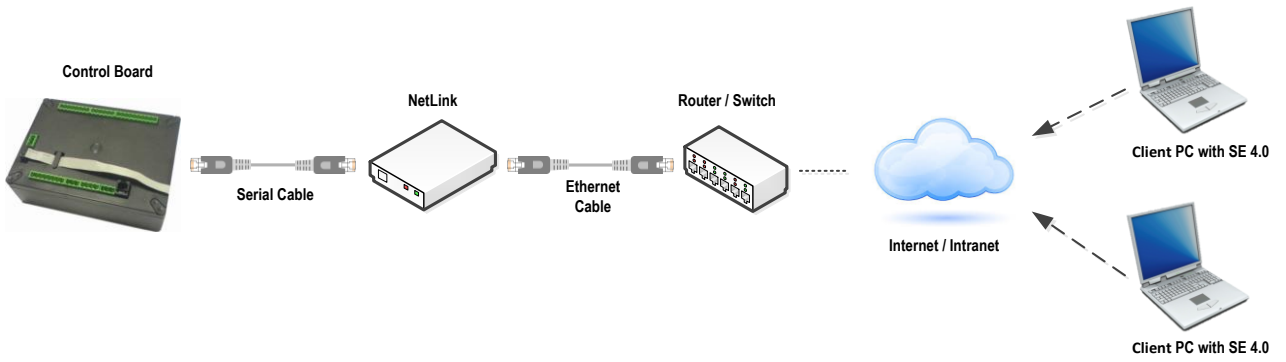
- **Console/Serial Switch:** This switch determines whether serial port functions. The switched must be set to OFF;
- **Reset:** The inset RESET button will reboot the NETLink if pushed in and released quickly. It will reset the NetLink to factory defaults if pushed in and held for more than three seconds.
- **Tx:** Flashes with transmit serial activity
- **Rx:** Flashes with receive serial activity
- **10/100 Ethernet:** The Ethernet connector.

Pic. 57

9.3 Mode of operation

This chapter provides information about the different methods you can to configure the NETLink product

9.3.1 Server Mode



Pic. 58

In Server mode, the device is listening and waits for connection requests from remote clients outside the local network. This configuration is desirable when is necessary to connect to the control board from different areas.

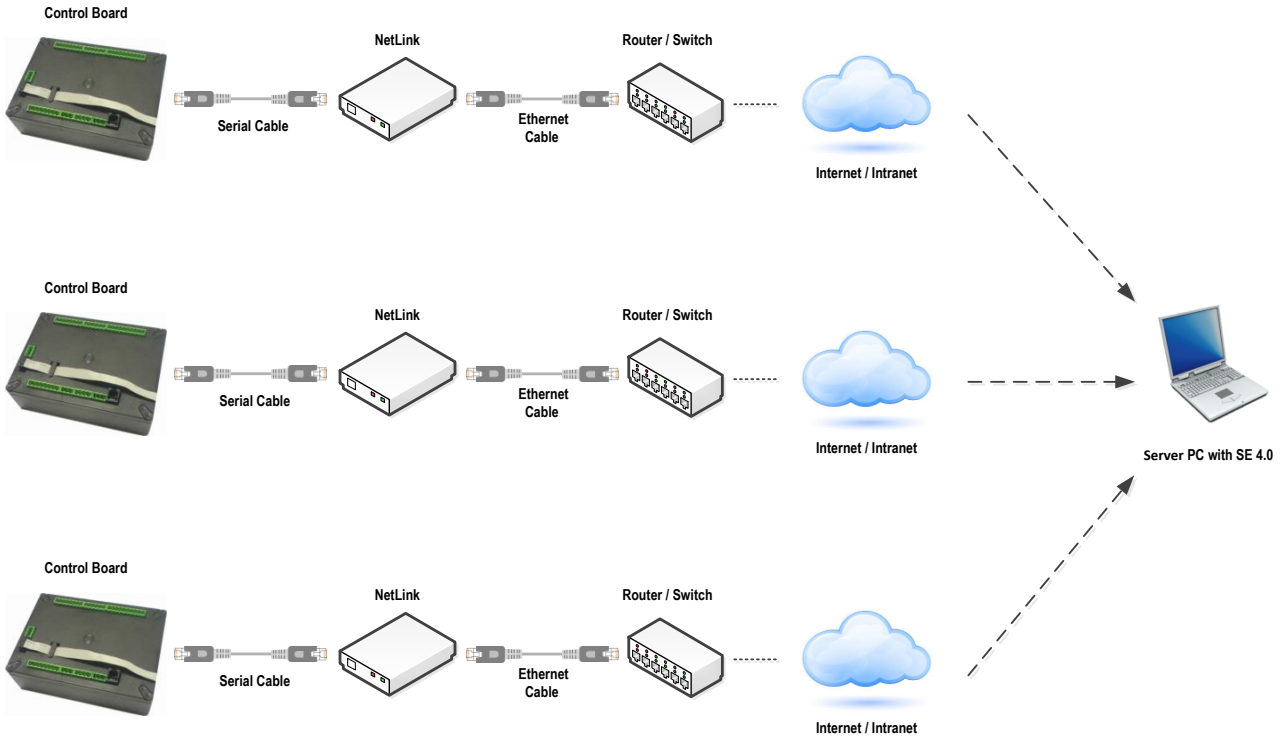
Pro

- Ability to reach the control board from anywhere in the world and from any computer connected to the Internet and equipped with the Software System Evolution 4.0.

Counter

- In presence of a router with a firewall you will need port mapping to direct incoming traffic to the remote Net link.
- Need to configure the device Net Link with static IP address.
- Is necessary to have a public static IP address, or in the case of dynamic IP, an DNS mapping services by router on the network.

9.3.2 Client Mode



Pic. 59

In client mode the Net Link device attempts to connect to a remote server listens for connections from the outside. Each device is identified by a name (user defined at configuration time) that is sent during the connection. This configuration is helpful in the case where there is a PC are carried out centrally from which all the operations of management and assistance.

Pro

- There is no need to perform any port mapping in your local network that is attached to the product as it is NetLink outbound connections;

Counter

- You cannot connect to devices NetLink from locations different from a central server;
- The listening server must be configured with static public IP address;

9.4 Configuration methods

This chapter provides information about the different methods you can use to configure the NetLink. Before you can configure the NETLink, you must assign an IP address.

The steps in chronological order are:

- IP address assignment;
- Configurations of the serial port;
- Configuration of network parameters;

The operation of the product requires access to advanced settings that make it unusable some configuration mode proposed by the documentation on the CD-Rom.

The possible methods that is possible to use are:

- The **Device Manager** software (for initial configuration of new products);
- The **Web Interface Manager** (in this case, you must have already been assigned an IP address and is not possible to use for initial configuration of new devices);

9.5 Device manager

The DeviceManager is a Windows-based application that can be used to connect to the NETLink to actively manage and configure it or can create new NETLink configurations offline.

The DeviceManager can be run from Windows 2000/Server 2003/XP/Vista/Server 2008. DeviceManager can be installed from the product CD-ROM. Unless the NET LINK has already been configured with a Gateway, DeviceManager can only access NET LINKs in the local subnet. The DeviceManager can be accessed by only the admin user.

DeviceManager supports the following features:

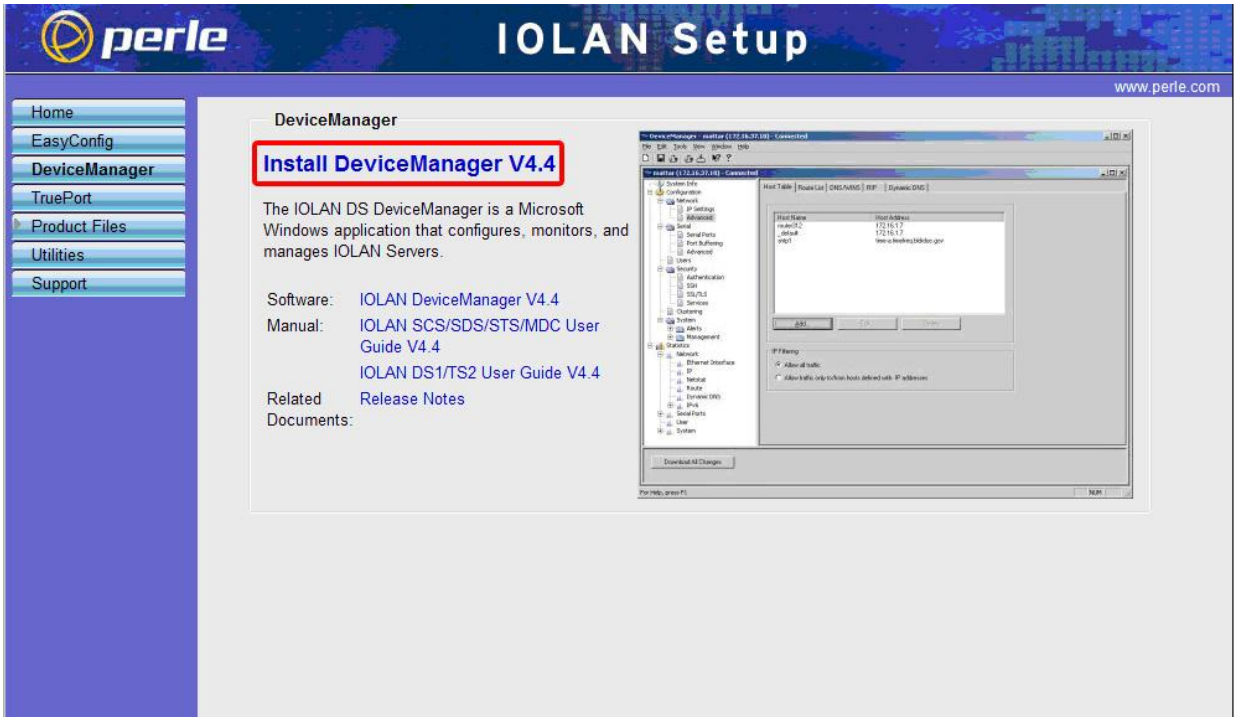
- The ability to download the same configuration file to several NETLinks in one operation.
- The ability to save a configuration file locally in text format, in addition to the binary format.
- The ability to create a configuration file without being connected to the NETLink.

Before you can use DeviceManager, you need to install it on your Windows operating system from the CD-ROM. After the DeviceManager application is installed, click Start, All Programs, Perle, DeviceManager, DeviceManager to start the application.

Open the File setup.html aand then select the ***Device Manager*** button.

Pic. 60

Click on ***Install Device Manager V4.4***

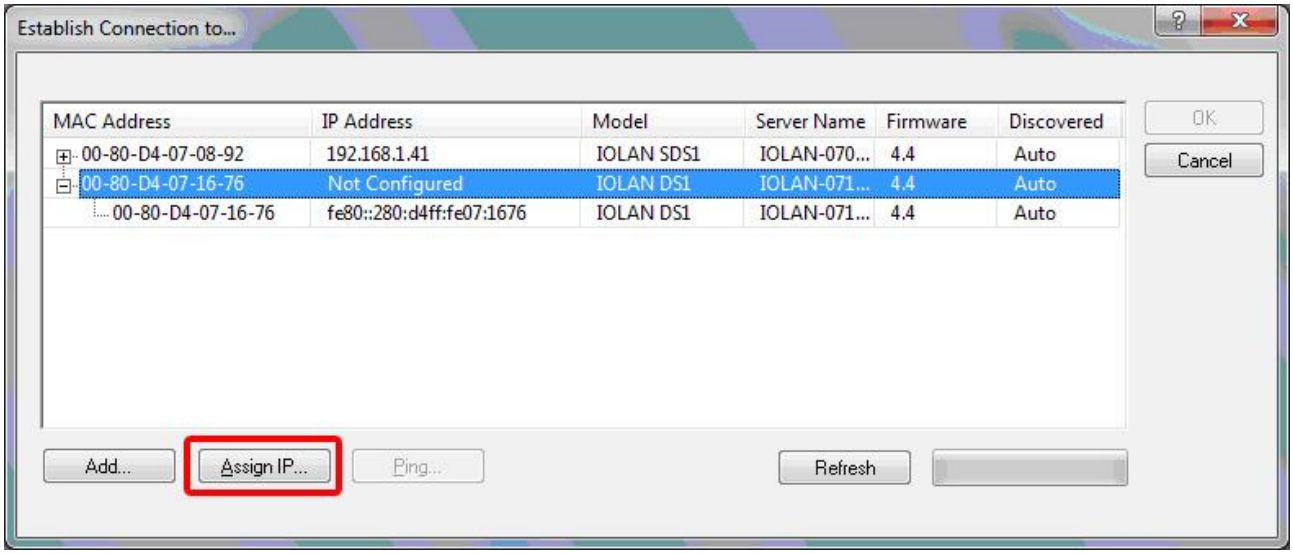


Pic. 61

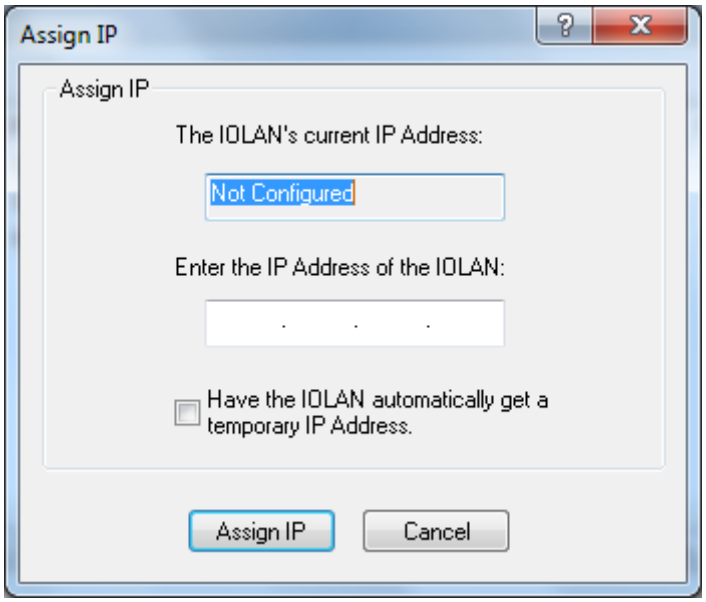
9.5.1 Configures an IP address

When you launch the DeviceManager, it will scan the network for the NETLink products. All discovered NETLink will be displayed on the list along with their name and IP address. When a new NETLink is discovered on the network, that has not yet been assigned an IP address, it will be displayed with an IP Address of Not Configured

The identification can be uniquely using the MAC Address of the device shown on the label affixed to the bottom of the device. Choose the device and use the ***Assign IP*** button to start the procedure for assigning the IP address.



Pic. 62



Pic. 63

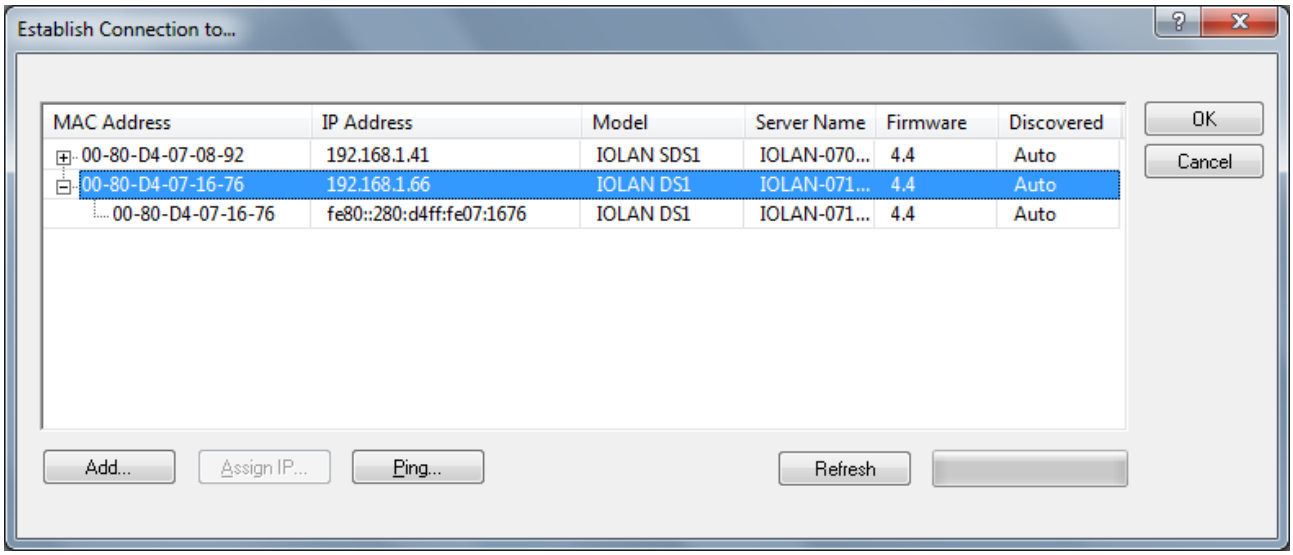
Choose the method you want to use to assign an IP address to the NET LINK:

Type in the IP address that you want to assign to this NET LINK

Enable the ***Have the NET LINK automatically get a temporary IP Address*** option. This will turn on DHCP/BOOTP, so the NET LINK will attempt to get its IP address from your DHCP/BOOTP server. If you don't have a DHCP/BOOTP server, DeviceManager will temporarily assign an IP address in the range of 169.254.0.1-169.254.255.255 that will be used only for the duration of the DeviceManager/NET LINK communication.

After you configure the IP address, click the ***Assign IP*** button.

The refreshed list will now display the assigned IP address for the new NETLink



Pic. 64

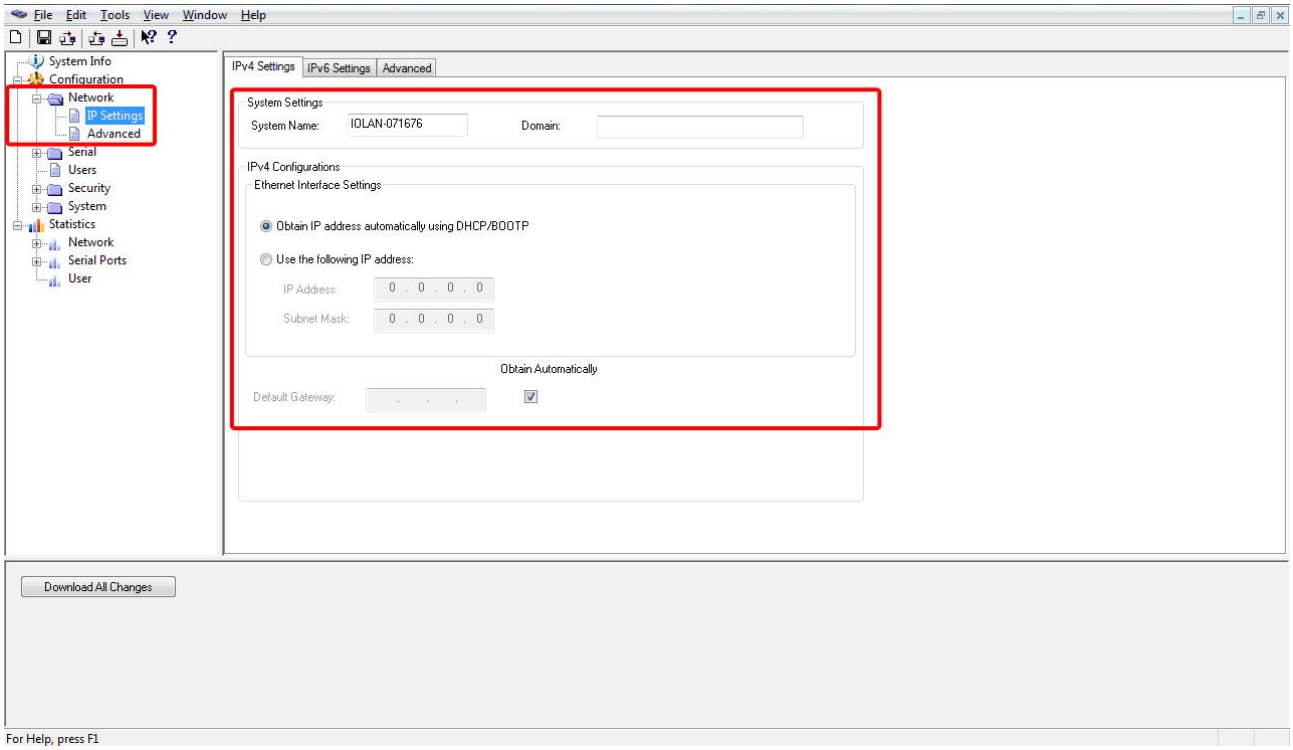
To connect to the NET LINK, click the NET LINK entry and click ***OK***. You will be asked to supply the Admin password (the factory default password is superuser).

The initial assigned IP address may be changed in the IP Settings section accessible from the tree menù by selecting the path ***Configuration → Network → IP Settings*** as in the following screen.

Is possible to Configure the following parameters:

- **System Name** The System Name is used for informational purposes by such tools as the DeviceManager and is also used in conjunction with the Domain field to construct a fully qualified domain name (FQDN). Default: NET LINK-xxxxxx (where xxxxxx is the last 6 digits of the NET LINK's MAC address)
- **Domain** This field is combined with the System Name to construct the fully qualified domain name (FQDN). For example, if the domain is mycompany.com and the Server Name is set to accounting, the FQDN would be accounting.mycompany.com. Obtain IP Address automatically using DHCP/BOOTP When enabled, the NET LINK will request an IP address from the DHCP/BOOTP server. By default, when this option is enabled, the NET LINK will also attempt to retrieve the DNS server, WINS server, and default gateway from the DHCP/BOOTP server. Default: Disabled
- **Use the following IP Address** Assign a specific IP address to the NET LINK. IP Address The NET LINK's unique IPv4 network IP address. If you are using the NET LINK in an IPv6 network, this field can be left blank.
- **IPv4 address Subnet Mask** The network subnet mask. For example, 255.255.0.0. Default Gateway Specify the gateway IP address that will provide general access beyond the local network.

- **Default Gateway** Obtain Automatically When DHCP/BOOTP is enabled, you can enable this option to have the NET LINK receive the Default Gateway IP address from the DHCP/BOOTP server. Default: Enabled

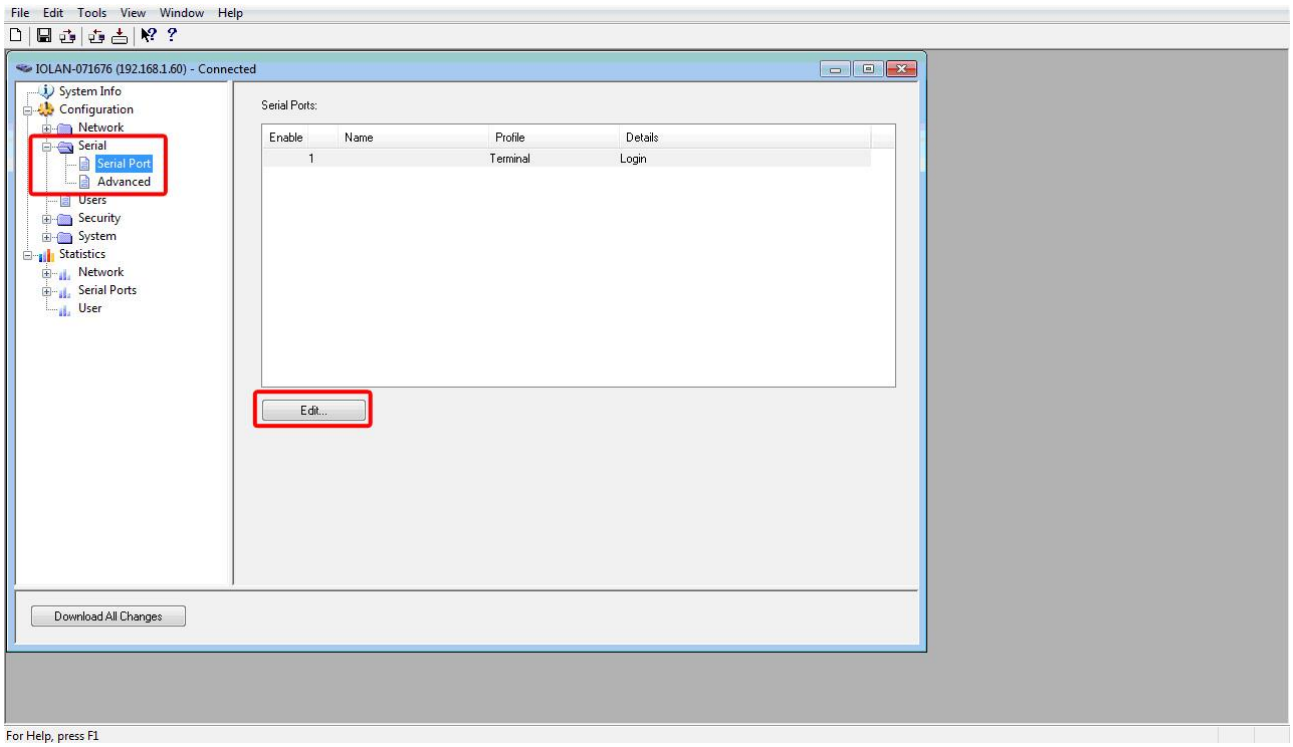


Pic. 65

NOTE: When you have completed all your configuration changes, click the ***Download All Changes*** button to download the configuration to the NETLink. You must reboot the NETLink for your configuration changes to take effect.

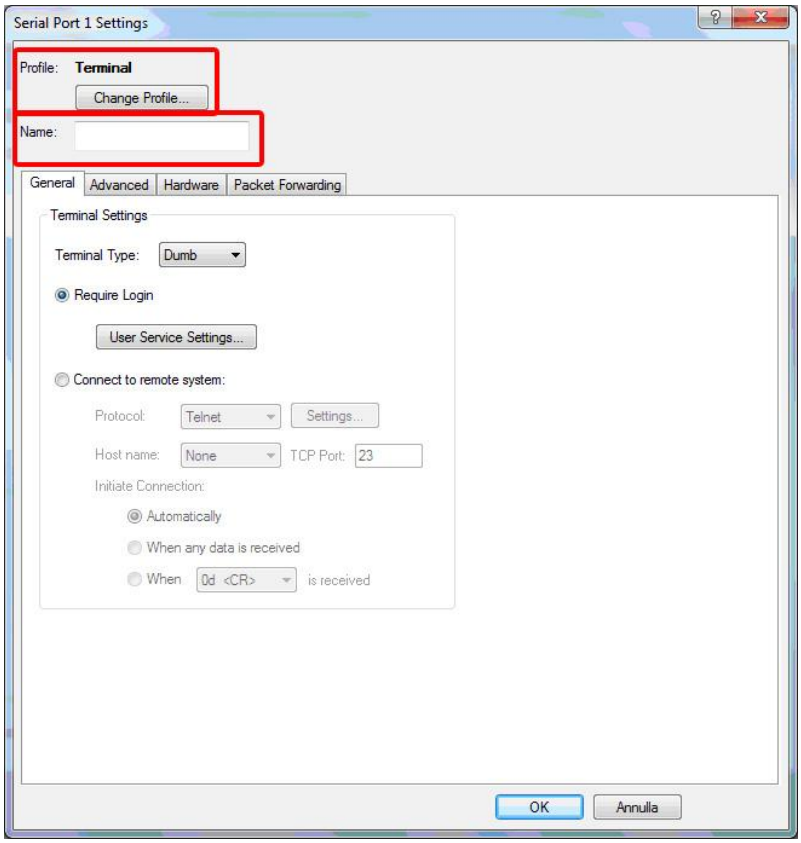
9.5.2 Configuration of serial port

To configure the serial port select the path ***Configuration → Serial → Serial Port*** From the tree menu



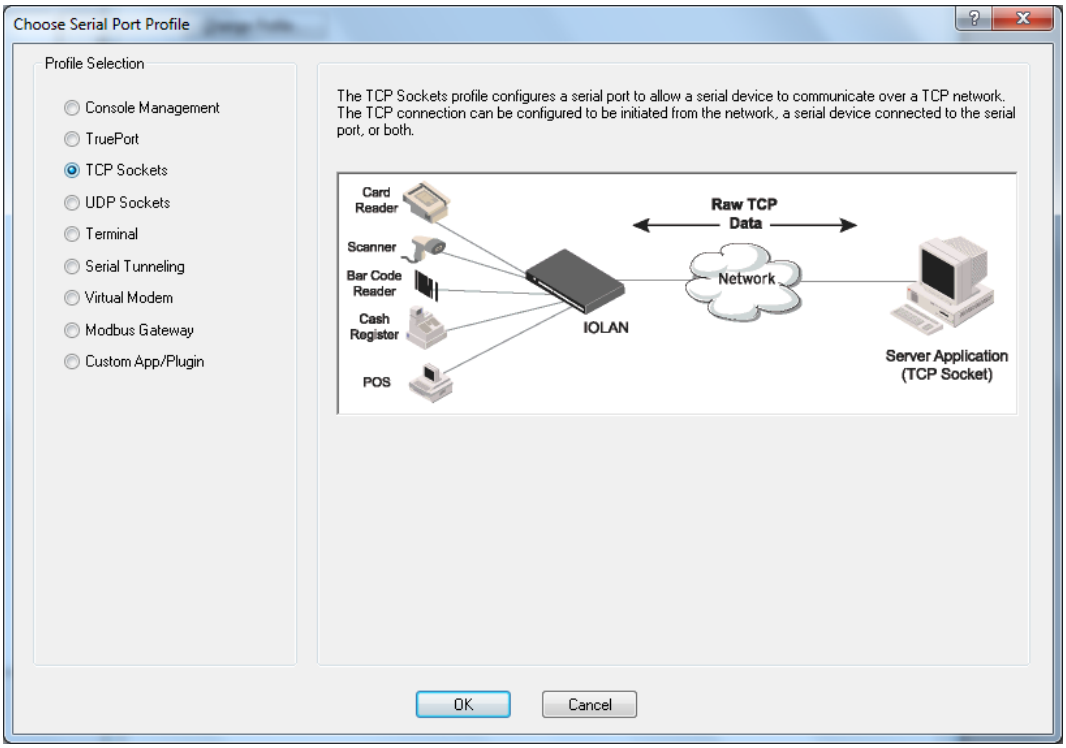
Pic. 66

Click on ***Edit*** button to access to general parameter



Pic. 67

In this section is possible to define the operating mode of the NETLink. Click the ***Change Profile*** button to select a ***TCP sockets*** profile.



Pic. 68

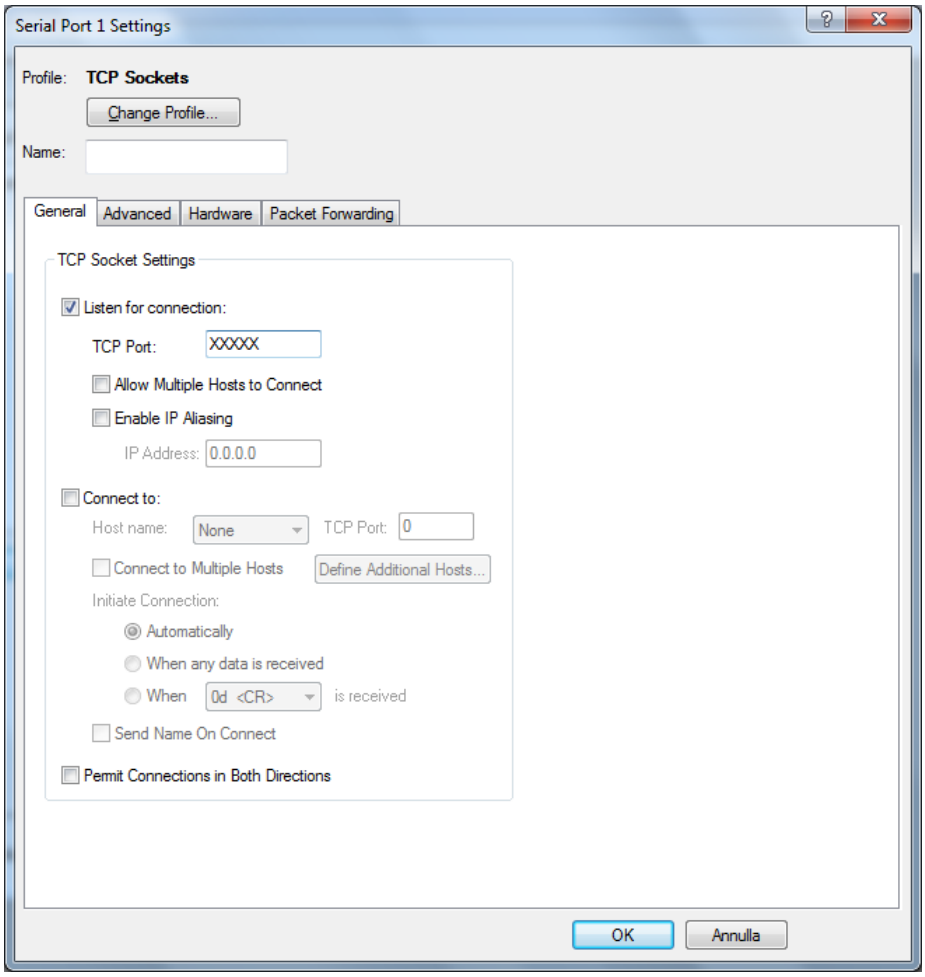
In the ***General*** tab Is necessary to choose the operating mode between Server or Client

The name field is useful for the identification of the device by the Software System Evolution

Settings for ***Server*** Mode

Enable ***Listen for connection*** and insert the following parameter

PARAMETER	SETTING
TCP Port	The TCP port that the NETLink will use to listen for incoming connections. Use this value in the port forwarding of network router/firewall

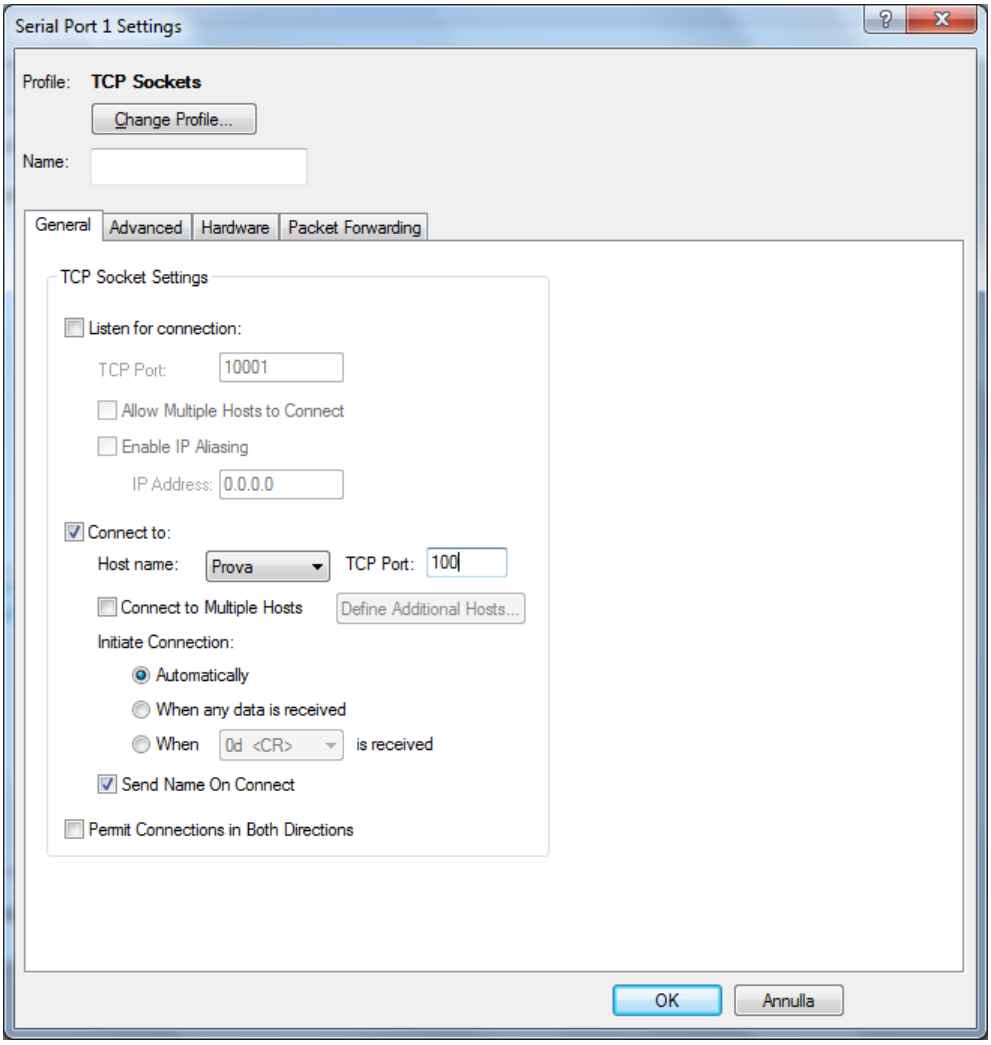


Pic. 69

Setting for ***Client*** Mode

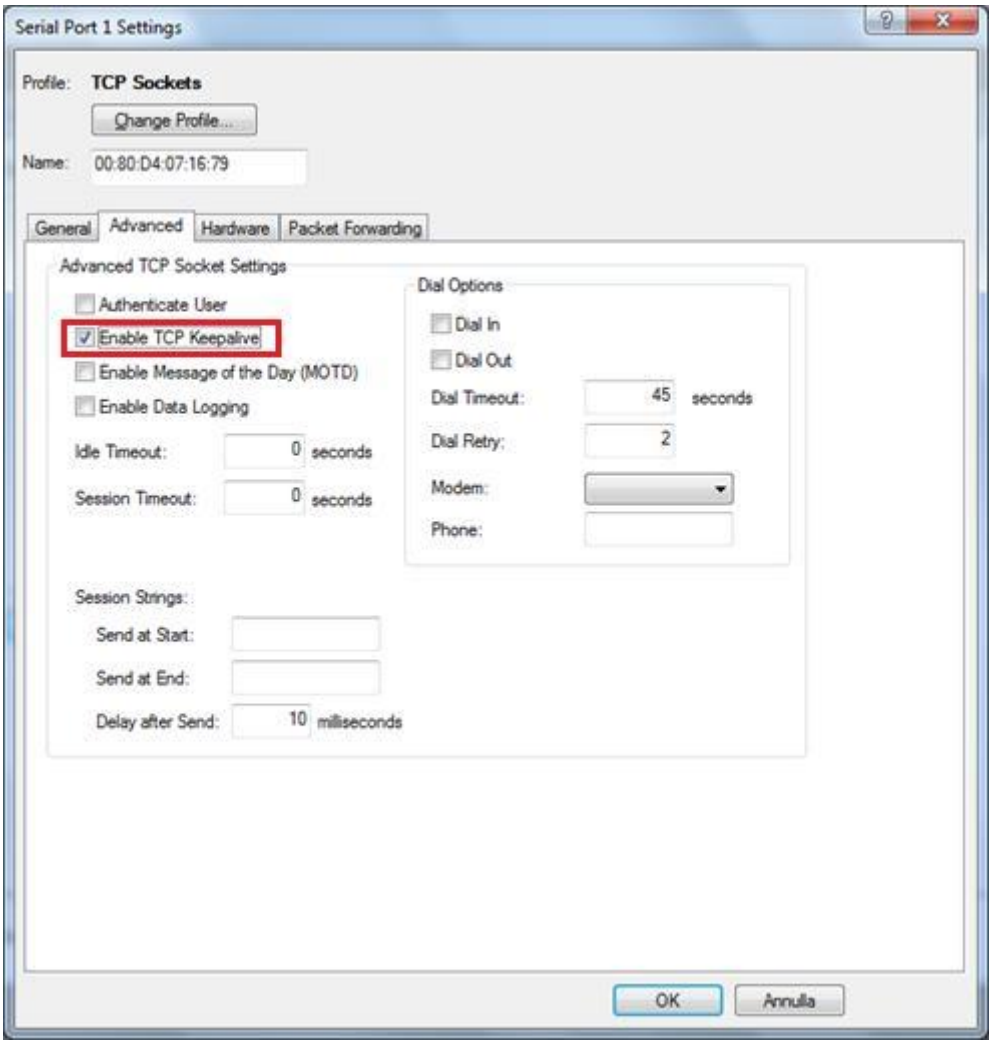
Enable ***Connect To*** and insert the following parameter

PARAMETER	SETTING
Host Name	The configured host that the will connect to
TCP Port	The TCP Port that the NET LINK will use to communicate to the client
Initiate connection Automatically	The device will initiate the session immediately after being powered up.
Send name on connect	When enabled, the port name will be sent to the host upon session initiation. This will be done before any other data is sent or received to/from the host

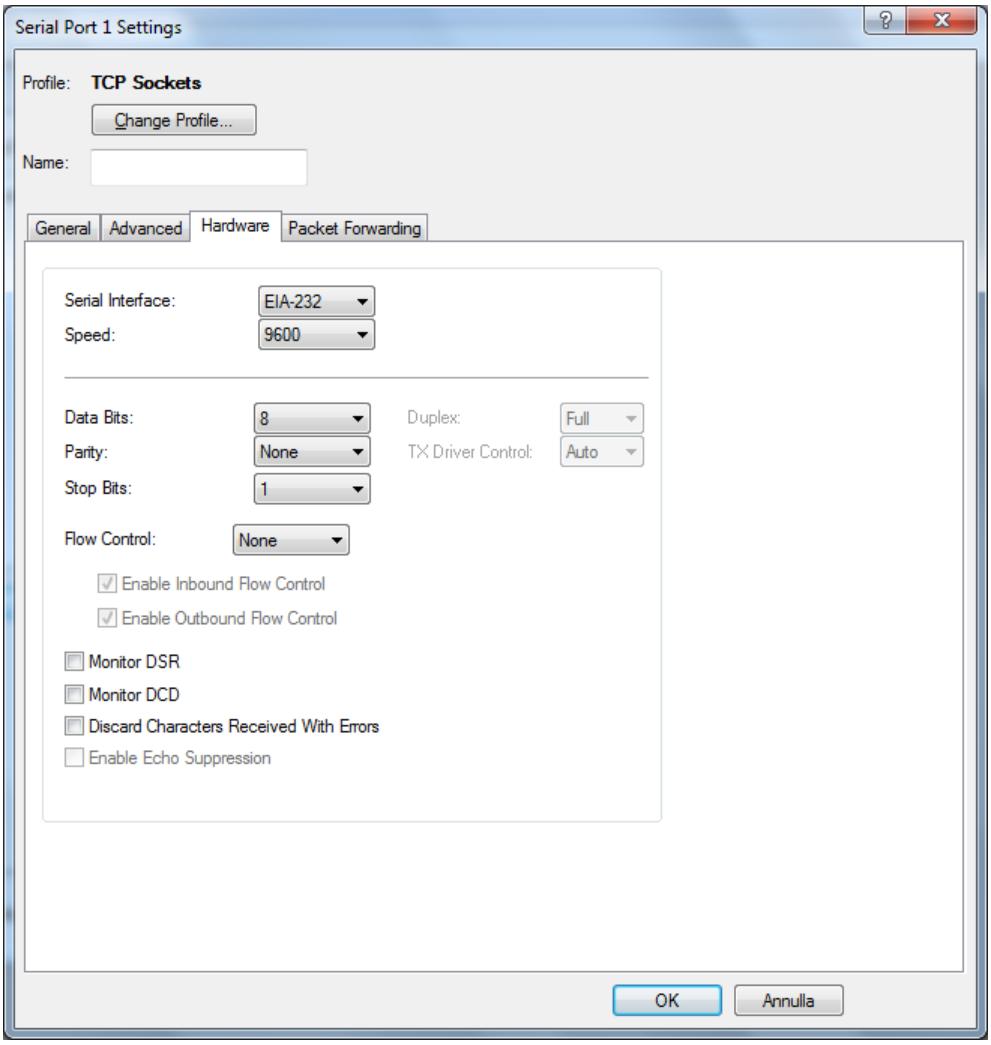


Pic. 70

In the ***Advanced*** tab Is necessary to activate ***Enable the Keep TCP Alive*** option.


Serial Port 1 Settings
Profile: TCP Sockets
Change Profile...
Name: 00:80:D4:07:16:79
General
Advanced
Hardware
Packet Forwarding
Advanced TCP Socket Settings
Authenticate User
Enable TCP Keepalive
Enable Message of the Day (MOTD)
Enable Data Logging
Idle Timeout: 0 seconds
Session Timeout: 0 seconds
Dial Options
Dial In
Dial Out
Dial Timeout: 45 seconds
Dial Retry: 2
Modem:
Phone:
Session Strings:
Send at Start:
Send at End:
Delay after Send: 10 milliseconds
OK
Annulla

Pic. 71

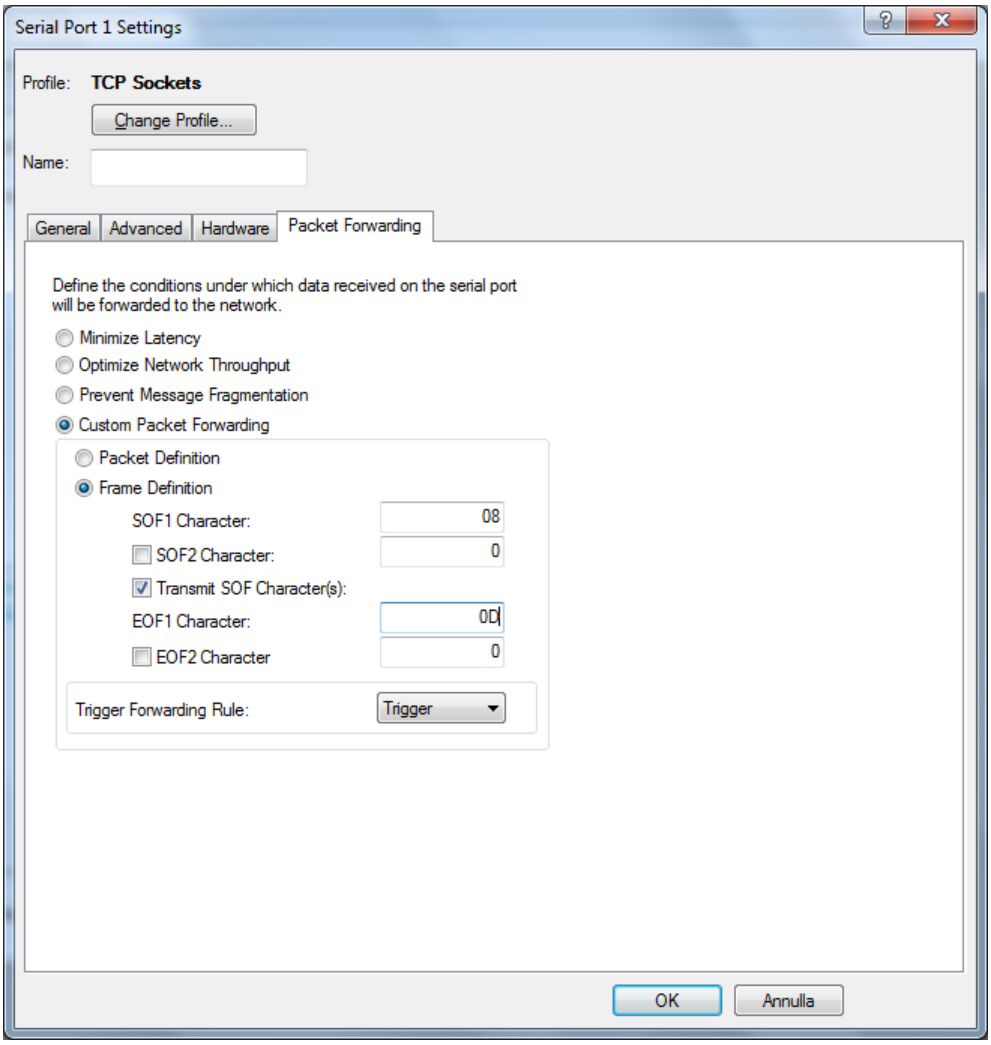


Pic. 72

In the tab ***Hardware*** is necessary to verify the correspondence of the following parameters.

PARAMETER	SETTING
Serial Interface	EIA-232
Speed	9600
Data bits	8
Parity	None
Stop bits	1
Flow Control	None

The tab ***Packet Forwarding*** be used to control/define how and when data packets are sent from the NETLink.



Pic. 73

Enable ***Custom Packet Forwarding***, ***Frame Definition*** and ***Transmit SOF Character(s)***.

PARAMETER	SETTING
SOF1 Character	08
ESOF1 Character	0D

9.6 Web manager

The DeviceManager and WebManager NETLink managers are very similar to use. DeviceManager is a Windows-based application and WebManager is a browser-based application. Both options use the NETLink's IP address to access the NETLink; the DeviceManager can be used to assign an IP address to a new NETLink and the WebManager requires that the NETLink already have an IP address before it can be used to configure the NETLink.When using WebManager, you are required to click the Apply button each time you make a change to a configuration window/tab. In DeviceManager, you must download your configuration changes to the NETLink either periodically or after you are done with the configuration changes. From both managers you must reboot the NETLink in order for you configuration changes to take effect.

The DeviceManager and WebManager have very similar navigation methods. The left-hand side of the manager is the navigation tree and the center is the configuration area. The DeviceManager has menu and quick access buttons, whereas the WebManager has system information and some navigation options on the far right-hand side.

The WebManager uses an expandable/collapsible buttons with folders and pages for the navigation tree. You can expand the buttons to view the folders and pages to see the available configuration options. When you access a configuration page, you can often navigate the tabs in the configuration area to access all of the configuration options.

Pic. 74

Using WebManager to Connect to the NETLink

WebManager can only connect to NETLinkss that already have an assigned IP address. To connect to the NETLink, type the IP address of the NETLink into the Address field as such: http://10.10.234.34. You will see the login screen. To access use ***admin*** like username and ***superuser*** like password.

Pic. 75